

A SYNOPSIS OF THE SPECIES OF *LOTONONIS*, Eckl. and Zeyh.,
and *PLEIOSPORA*, Harv.

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(Plate XIX.)

Since Harvey's excellent systematic account in the Flora (Flora Capensis, II. pp. 47-66) of the genera here alluded to, a considerable bulk of undetermined material appertaining to these groups has accumulated, which has suggested the expediency of the following paper. This aims at a segregation of all known species and their identification by the aid of appended keys. The material examined has been particularly rich in type specimens, especially at Kew, which has considerably facilitated the work, while that of the British Museum and the Edinburgh Botanic Gardens, has augmented the list of collectors' numbers and incidentally assisted in clearing up several critical points.

Dr. H. Schinz, of the University of Zürich, has courteously forwarded the material relating to these genera for examination, among which I have to record several species new to science. Through the kindness of Dr. H. Dixon, of Trinity College, I was permitted to examine Harvey's type of *L. Wrightii*, which has confirmed my suspicions as to its correct status and suggested its transference to *Hallia*. Dr. O. Juel, of Upsala, with his customary courtesy, has forwarded information regarding Thunberg's types, and after a critical examination of a flower of *Lebeckia densa*, Thunberg, which species was referred by Harvey to *Lotononis*, I am unable to accept the latter author's view and follow Thunberg in his conception of that species.

To the authorities of the institutions here alluded to, my thanks are due for access to specimens and the literature thereto, nor can I fail

to acknowledge the assistance rendered by Mr. A. J. Jennings at the commencement of the work, which he had to, subsequently relinquish, owing to an appointment abroad.

The genera *Lotononis*,* Ecklon and Zeyher, and *Pleiospora*, Harvey, constitute groups of the Order Leguminosae, which were assigned a position by Bentham intermediate between *Lebeckia* and *Aspalathus*, on the one hand, and *Rafnia* on the other, in the tribe Genisteae. As a brief review of each genus precedes the enumeration of its species, it will only be necessary to tabulate the differences distinguishing these genera.

Carina curved. *Style* curved,† not geniculate = *Lotononis*.

Carina straight. *Style* straight, in line with the ovary.‡ = *Pleiospora*.

LOTONONIS, Ecklon and Zeyher, Enum. Pl. 176 (1835).

The genus *Lotononis*, numbering approximately 108 species, displays considerable superficial polymorphism, as may be inferred by the fact that prior to Bentham's conception of the genus, the species then known were scattered over seven genera, but subsequently the author alluded to, recognising the uniformity of the more salient characters, reduced these to sections, which, on the whole being perfectly natural, were adopted (and slightly amplified) by Harvey, and are accepted here, with the exception of the § *Oxydium*, whose units (owing to the presence of a rostrate carina and its correlated genuflexed style), exhibit a greater affinity to the genus *Crotalaria*, to which they are consequently referred. The expediency of this step is apparent, when a close study of the calyx of either of the genera is instituted, and contrasting points, which have been considered of great import by systematists, are recognised to be variable to both groups; § hence the necessity of seizing upon more stable characters of which the absence or presence respectively of the rostrum in this instance appears to be the most satisfactory point of distinction, the turgidity of the pods being peculiar to both genera and therefore a point of secondary importance. Similarly to emphasise the stability of the genus under consideration, and to obviate any overlapping, certain recently described species of *Lotononis* have been referred to *Pearsonia*, *mihi*,|| while *Buchenroedera*

* This genus is ascribed by some authors to De Candolle, who, despite its authorship, used it, however, only in a sectional sense; it was subsequently raised to generic rank by Ecklon and Zeyher.

† This character is dependent upon the relative age of the flower; after fertilisation the style often assumes a different shape.

‡ Cf. *Journal of Botany*, Nov. (1912), 353-358.

§ Mr. E. Baker, who is engaged on a monograph of the African *Crotalaria*s is disposed to agree with me in this matter.

|| Cf. *Journal of Botany*, Nov. (1912), 353-358.

biflora, Bolus, and *Lebeckia leuocolada*, Schlechter, are intercalated with the former genus.

Although it is conceded that the calycine characters seized upon by most authors hold good in the majority of cases, nevertheless an examination of *Buchenroedera lotononoides*, Scott Elliot, reveals every gradation from a *Lotononis* to a *Buchenroedera* calyx, and precisely so in *Lotononis Woodii*, Bolus, where a leaning to an *Argyrolobium* calyx also obtains. These facts lead to the conclusion that until more fruiting material is obtainable, and differences based upon the nature of the fruits and their contents are ascertained, these genera and those in the vicinity must remain to some extent unnatural, and be arbitrarily accepted.

The sectioning of the genus is largely based upon the disposition of the flowers and incidentally often in correlation with the habit of the species, which are occasionally annuals, perennial, decumbent or procumbent plants, or, as in the sections, *Krebsia* and *Aulacanthus*, rigid shrublets. The annuals are more or less confined to the Western Region of the Cape Colony in Little Namaqualand, where this phase of vegetation is one of the most striking floral points in the physiognomy of that region, the early rains being almost instantaneously followed by a profusion of gaily coloured annuals, to which a striking contrast is furnished by the prolonged drought which follows, when almost every sign of vegetation disappears.

The genus is essentially South African, about 100 of the 108 species constituting the genus being confined to that region, while the remainder extend into the Tropics via the Eastern Coast, thence into Abyssinia, Morocco, and Arabia, *L. Leobordea*, Benth., being the most widely diffused species from Cape Colony to Southern Persia and Baluchistan; its claim to be a native of South Africa is, however, very problematical.

The species endemic in South Africa are, as far as Herbaria material suggests, fairly local and well defined, but where a wider diffusion than usual obtains, the species is marked by a variability exceedingly perplexing to the systematist. The § *Aulacanthus*, comprising four species is confined to the Western Coastal Region of Cape Colony, extending from Little Namaqualand south-eastwards to the Uitenhage Division, the highest northerly point on the western coast of Africa being attained by *L. angolensis*, Welwitsch. The species appertaining to the § *Krebsia* (which section, by the inclusion of several novelties, requires extension), are more or less coastal in their distribution, commencing from the Caledon Division in the south-western strip of Cape Colony, and gradually extend eastwards, still hugging the coast, to Natal, from whence they diffuse inland over the Drakensbergen to the Transvaal. *L. digitata*, Harvey, and *L. Benthamiana*, Dümmer, species peculiar to Little Namaqualand, exhibit considerable deviation from the remaining members of this

section, by their quinquefoliolate leaflets and shortly stipitate legumes, but it appears best to follow Harvey's view as regards their inclusion in that section.

In their habit, the representatives of the § *Telina* differ markedly from those of the preceding section in being diffuse or decumbent perennial herbs, with slender peduncled one- or few-flowered inflorescences, the species preponderating in the South-West Region of the Colony, and suddenly reappearing northwards in the Transvaal. The latter group comprises five species, two of which bear smaller yellow flowers, and subfalcate-torulose legumes.

The approximation of the remaining species of the § *Oxydium* to § *Polylobium*, a section showing slight overlapping to the § *Telina* is considered here, to facilitate comparison of the remaining sections. The species are also more or less coastal in their distribution and coincide with that of the members of the § *Telina*, except in extending farther eastwards up to Port Elizabeth and Albany, reappearing in Angola and East Central Africa.

§ *Lipozygis* has a wider diffusion, the group comprising prostrate or decumbent herbs, occasionally annuals, with lateral subsessile globose flower-heads, occurring in Little Namaqualand to Tulbagh, in the Western and South-Western Coastal Region of the Colony, while the remaining species, exclusively perennial, with terminal hemispheric inflorescences, are Eastern and Central in their distribution, preponderating in the Griqualand East, Natal and Transvaal Provinces respectively.

In the minute abaxial tooth of the calyx, the peculiarly curved carina and the almost tubular calyx, the four species constituting the section *Leobordea*, depart somewhat from the general type of the genus, and a more critical investigation of the group may suggest their separation; their distribution is Coastal and Central, they being entirely absent from the Eastern Region.

§ *Leptis* represents a large and heterogeneous group whose species total about forty-five; their sequence here is not quite in accord with that of Harvey, as the disposition and nature of the indumentum of the leaflets has been found to be in correlation with their natural diffusion, upon which their sequence is therefore based. In this section a small group of three species mimicking in habit those of § *Krebsia*, with quinquefoliolate leaves, yellow flowers, and shortly stipitate legumes obtain, which are confined to Little Namaqualand, while one occurs in Algeria and Spain. The remainder of the section are more ubiquitous, preponderating in Cape Colony, and extending via the East Coast to North Africa in Morocco. To facilitate the identification of recently described species a brief sketch of the sections as proposed by Bentham, but slightly modified to suit present exigencies plus a clavis to the individual genera, is appended.

§ 1. *AULACINTHUS*, Bentham, Hook. London, Jour. Bot. II. (1843), 596.

Racemes terminal, prolonged. *Legume* turgid with a sunken ventral suture.

Rigid shrublets. *Leaves* trifoliolate; stipules minute, solitary or absent. *Aulacanthus*, E. Meyer, Comment. Pl. Afr. Aust. 156 (1835).

§ 2. *KREBSIA*, Bentham, l.c.

Flowers solitary, in pairs or few together, subsessile or shortly pedicellate, axillary or terminating short lateral branchlets (rarely terminal or racemously disposed). *Legume* compressed, without a sunken ventral suture, sessile or shortly stipitate.

Rigid shrublets, with subsimple ascending rod-like branches (rarely divaricately branched), or with a persistent woody rootstock from which annual subsimple erect flowering branches develop. *Leaves* tri- to quinquefoliolate; stipules solitary or in pairs, foliaceous. *Krebsia*, Ecklon and Zeyher, Enum. Pl. 179 (1835).

§ 3. *TELINA*, Bentham, l.c.

Flowers solitary or few, subumbellately terminating elongated peduncles. *Carina* obtuse. *Legumes* straight or turgid, or compressed and falcate-subtorulose.

Diffuse or decumbent undershrubs or herbs. *Leaves* trifoliolate; stipules solitary or in pairs, foliaceous. *Telina*, E. Meyer, l.c. 67.

§ 4. *POLYLOBIUM*, Bentham, l.c.

Inflorescence pedunculate, umbellate. *Carina* obtuse or acute. *Legume* straight, compressed or turgescens.

Diffuse or rarely suberect suffruticose-herbaceous plants. *Leaves* trifoliolate; stipules solitary or in pairs. *Polylobium*, Ecklon and Zeyher, l.c. 176.

§ 5. *LIPZYGIS*, Bentham, l.c. 596.

Inflorescence subsessile; flowers disposed in terminal or lateral, hemispheric or globose heads.

Diffuse or decumbent herbs (occasionally annual), or with a perennial woody rootstock sending up subsimple, erect, leafy, annual, flowering shoots. *Leaves* trifoliolate, rarely quinquefoliolate; stipules solitary or none, foliaceous. *Lipzygis*, E. Meyer, l.c. 76.

§ 6. *LEOBORDEA*, Bentham, l.c. 597.

Flowers solitary, subsessile, opposite the leaves or few together in the forks of the stems. Lower calyx-segment much shorter than the remain-

ing two pairs. Limb of the carina narrowly oblong, shortly geniculate, rotundate.

Small prostrate, dichotomously branched herbs or undershrubs (occasionally annual). *Leaves* trifoliolate; stipules minute. *Leobordea*,* *Défile* in *Laborde*, *Voy. Arab.* 86. *Leobardea*, *Pomel*, *Nouv. Mat. Fl. Atlas*, 162 (1874). *Capnitis*, *E. Mey.* l.c. 81.

§ 7. LEPTIS, Bentham, l.c. 597.

Flowers solitary, or in few-flowered subsessile clusters, subsessile or pedicellate, opposite the leaves or terminating short twigs (rarely subumbellately disposed). Lower calyx-segment equalling or longer than the remaining two pairs. Limb of the carina obliquely boat-shaped, acute or obtuse.

Diffuse (rarely erect), undershrubs (occasionally annuals). *Leaves* trifoliolate (rarely quinquefoliate or unifoliolate); stipules solitary or in pairs. *Leptis*, *E. Meyer ex Ecklon and Zeyher*, *Enum. Pl.* 174. *Leptidium*, *Presl. Bot. Bemerk.* 49.

§ 1. AULACINTHUS.

I. *Leaves* exstipulate. *Flowers* 8-11 mm. long.

*Leaflets obovate or broadly cuneate, 3.5-5 mm. broad, truncate or emarginate. (2) *leuoclada*.

**Leaflets oblanceolate or cuneate, 1.5-2.5 mm. broad, subacute.

Racemes 5-10-flowered; calyx sericeous. (1) *gracilis*.

Racemes few-flowered; calyx with spreading hairs . . . (3) *rigida*.

II. *Leaves* stipulate; stipule foliaceous.

Flowers small, scarcely exceeding 6 mm. (4) *viborgioides*.

§ 2. KREBSIA.

I. *Leaves* trifoliolate. Legume sessile.

A. Vexillum ample, with an orbicular or reniform limb. *Flowers* bluish or purplish.

a. Leaflets glabrous, linear-lanceolate, pungent or subacicular. (8) *carnosa*.

b. Leaflets sericeous or patently and shortly strigillose, oblanceolate or broadly cuneate.

1. Plant a light green. Leaflets with thickened margins. Peduncle invariably 2-flowered. (6) *biflora*.

2. Plant a greyish green or silvery. Leaflets with unthickened margins. Peduncle invariably 1-flowered. Vexillum often sericeous posticously.

*Stipules in pairs.

†Entire plant silvery. Vexillum very shortly clawed; limb 12-15 mm. in diameter, densely sericeous posticously. (7) *Wyliei*.

* Despite the priority of this name it does not appear desirable to resuscitate it.

- ††Entire plant greyish green. Vexillum with a longish claw; limb 8–10 mm. in diameter, glabrous or slightly sericeous posticously on the upper half. . . . (5) *cytisoides*.
- *Stipules solitary.
- †Plant sparingly sericeous. Twigs sparingly leafy, slender and subsimple.
- Legume sericeous. (9) *divaricata*.
- Legume patently pubescent. . . . (10) *sericophylla*.
- ††Plant densely and shortly greyish strigillose. Twigs densely leafy and short. (11) *Galpinii*.
- B. Vexillum spatulate with an oblong subacute limb.
- Flowers yellowish or rose-red.
- Corolla glabrous, yellowish. Pedicels 2–3 mm. long. (12) *dichiloides*.
- Corolla sericeous, rosy red. Flowers very shortly pedicellate.
- Leaves densely imbricate; twigs hirsute. . . . (13) *hirsuta*.
- Leaves shorter than the internodes; twigs inconspicuously sericeous.
- Inflorescence 3–6-flowered. Leaflets glabrous on the upper surface. (14) *transvaalensis*.
- Flowers invariably solitary. Leaflets sericeous on both surfaces. (15) *pauciflora*.
- II. Leaves preponderatingly quinquefoliolate. Flowers straw-coloured. Legume shortly stipitate.
- Petiole much shorter than the leaflets. Limb of the carina narrowly oblong, 3 mm. wide. (16) *digitata*.
- Petiole equalling the terminal leaflet. Limb of the carina broadly boat-shaped, 5 mm. wide. . . . (17) *Benthamiana*.
- § 3. TELINA.
- I. Legume straight and turgescens. Vexillum exceeding the carina in length.
- A. Vexillum not reflexed. Bracts and bracteoles obovate.
- Peduncle not exceeding 1 cm. in length. (18) *bracteata*.
- B. Vexillum reflexed and ample. Bracts and bracteoles subulate or lanceolate. Peduncle slender, 2–10 cm. long.
- a. Vexillum either with a posticous longitudinal line of hairs or pubescent on the upper half.
- *Vexillum pubescent on the upper half posticously.
- Leaflets glabrous on the upper surface at maturity.
- Plant small, compact. Flowers small.
- Limb of the vexillum 8 mm. across. . . . (20) *minor*.
- Plant large, diffuse. Flowers large. Limb of the vexillum 1–1.5 cm. across. . . . (19) *azurea*.
- Leaflets with short bristle-like hairs on both sides; conspicuously netted on the under surface. (24) *acuminata*.

Leaflets densely covered on both sides with long silky hairs; not reticulate on the under surface.

Leaflets cuspidate. Calyx subequalling the vexillum. (23) *villosa*.

Leaflets acute or acuminate. Calyx shorter than the vexillum. (25) *argentea*.

**Vexillum with a median longitudinal line of hairs posticously.

Peduncle invariably 1-flowered. Leaflets appressedly and shortly strigillose on the lower surface. (21) *prostrata*.

Peduncle usually 2-4-flowered. Leaflets entirely glabrous. (26) *varia*.

b. Vexillum entirely glabrous.

Leaflets broadly obovate-cuneate or suborbicular, glabrous. Plant drying black.

Peduncle slender, 1-flowered. Plant entirely glabrous. (27) *solitudinis*.

Peduncle stout, 3-4-flowered. Plant inconspicuously pubescent. (28) *macrocarpa*.

Leaflets linear, acute, pilose.

Plant not drying black. (22) *macra*.

II. Legume subfalcate, compressed and subtorulose. Vexillum shorter than the carina.

*Stipules large, ovate-cuspidate, invariably equalling or exceeding the petiole. Twigs patently hirsute. (31) *magnistipulata*.

**Stipules minute, much shorter than the petiole. Twigs puberulous or glabrescent.

Compact. Peduncle 1-flowered. Leaflets oblanceolate or obovate, 4-10 mm. long. (29) *Marlothii*.

Diffuse. Peduncle 2-5-flowered. Leaflets narrowly elliptic, 5-40 mm. long. (30) *Barberae*.

§ 4. POLYLOBIUM.

I. Carina rounded or obtuse.

A. Stem diffuse or decumbent, often branched.

a. Leaflets broadly obovate-cuneate or elliptic; stipules solitary.

Corolla densely sericeous. Leaflets elliptic (33) *procumbens*.

Corolla glabrous. Leaflets broadly obovate-cuneate.

Bracts subulate, minute.

Calyces with inconspicuous appressed hairs. (32) *umbellata*.

Calyces with conspicuous spreading hairs. (34) *debilis*.

Bracts obovate or orbicular, longer than the pedicel. (36) *pallens*.

b. Leaflets linear lanceolate, broadly oblanceolate or narrowly elliptic.

*Vexillum small, shorter than the carina, glabrous. Stipules solitary.

Stipules subulate or lanceolate-acute.

Flowers nodding. Calyx glabrescent. (37) *angolensis*.

- Stipules ovate-cuspidate. Calyx pubescent. (38) *Bainesii*.
 **Vexillum ample, exceeding the carina. Stipules in pairs.
 †Plant entirely glabrous. Vexillum glabrous. Leaflets narrowly obovate-cuneate. . . . (35) *Bachmanniana*.
 ††Plant with spreading hairs. Vexillum with a median longitudinal line of hairs posticously. Leaflets lanceolate, oblanceolate, or narrowly elliptic.
 Flowers nodding. Peduncle terminal.
 Calyx appressedly pubescent. . . . (41) *peduncularis*.
 Calyx with spreading hairs. . . . (40) *tenuifolia*.
 Flowers aggregated in globose or hemispheric hairy heads, which invariably terminate short lateral twigs. . . . (39) *involutrata*.
 B. Stem ascending or erect, simple. Leaflets linear, pungent.
 Flowers pedicellate. Vexillum ample, reflexed, slightly sericeous posticously. . . . (42) *angustifolia*.
 Flowers subsessile. Vexillum small, hidden by the calyx. Corolla with spreading hairs. . . . (43) *Newtoni*.
 II. Carina acute.
 Leaves unifoliate. Leaflets ovate. Peduncle 3-flowered. Vexillum sericeous posticously. . . . (45) *monophylla*.
 Leaves trifoliate. Leaflets obovate. Peduncle 4-many-flowered. Vexillum entirely glabrous. . . . (44) *trichopoda*.

§ 5. LIPOZYGIS.

- I. Prostrate or decumbent herbs (often annuals). Flower-heads globose, lateral or terminal.
 A. Leaves preponderatingly 5-foliate.
 a. Flowers white. Calyx densely and softly pilose. Leaflets glabrous on the upper surface at maturity.
 Bracts conspicuous, ovate-cuspidate. . . . (49) *anthylloides*.
 Bracts subulate or lanceolate, acute.
 Leaflets subcoriaceous. Calyx 6 mm. long. (46) *pentaphylla*.
 Leaflets with hairs on both surfaces.
 Leaflets thin-textured. Calyx 7-8 mm. long. . . . (50) *Bolusii*.
 b. Flowers rose-coloured. Calyx stiffly strigillose. Leaflets herbaceous, sparingly pilose on both sides. . . . (47) *rosea*.
 B. Leaves always trifoliate.
 Leaflets coriaceous, densely hirsute-sericeous on both surfaces. . . . (48) *polycephala*.
 II. Plants developing usually erect, annual, flowering, sub-simple shoots from a woody perennial rootstock. Flower-heads hemispheric, invariably terminal.
 A. Plant not drying black.
 *Corolla sericeous.
 †Stipules in pairs.
 Leaflets linear-acute, 5 mm. long. . . . (51) *Wilmsii*.

*ii*Stipules solitary.

Twigs and leaflets shortly pubescent, the former terete; terminal leaflet 5-10 mm. long. . . . (52) *Sutherlandii*.

Twigs and leaflets hirtellous or densely hirsute, obovate-cuneate, the former angulate; terminal leaflet elliptic, 10-15 mm. long, 4-7 mm. broad, subacute (rarely broadly obovate).

Vexillum 4 mm. broad, auriculate at the base. (53) *eriantha*.

Vexillum 2.5-3 mm. broad, attenuate at the base. (55) *corymbosa*.

**Corolla glabrous, except for a median longitudinal posticous line of deciduous hairs on the limb of the vexillum. (54) *pulchra*.

B. Plant drying black.

†Stipulate. Flower-heads rarely exceeding 3 cm. in diameter.

Carina 4 mm. broad. (57) *foliosa*.

Carina 2 mm. broad. (56) *lanceolata*.

††Exstipulate. Flower-heads exceeding 4 cm. in diameter, compactly 25-30-flowered. (58) *grandis*.

§ 6. LEOBORDEA.

*Carina 14 mm. long.

Petioles 6-8 mm. long, the leaflets slightly shorter; stipule solitary, falcate (59) *carinalis*.

**Carina 9 mm. long. Calyx subinflated and prominently nervate at the maturation of the fruit. Caespitose (60) *Steingroeveriana*.

***Carina 4-7 mm. long. Calyx not inflated, prominently nervate. Dichotomously branched and spreading, rarely caespitose.

Calyx 6 mm. long, shortly pubescent (61) *clandestina*.

Calyx 3-4 mm. long, sericeous or villous (62) *Leobordea*.

§ 7. LEPTIS.

I. Leaves preponderatingly 5-foliolate. Legume very shortly stipitate.

a. Flowers large, exceeding 2 cm.; vexillum much shorter than the carina. Leaflets thickly coriaceous (66) *longiflora*.

b. Flowers small, not exceeding 1 cm.; vexillum sub-equaling the carina.

Petioles averaging 1-1½ cm. Legume glabrous . . (64) *delicatula*.

Petioles 5 mm. long. Legume inconspicuously sericeous.

Carina narrow, 1 mm. Corolla glabrous (63) *quinata*.

Carina broad, 2-3 mm. Corolla sericeous (65) *lupinifolia*.

II. Leaves trifoliolate, rarely unifoliolate. Legume sessile.

A. Leaflets sericeous on both sides (rarely patently hirsute).

*Carina acute.

†Pod included within the calyx.

Stipules cordate-ovate. Bracts involucrate, conspicuous, broadly subreniform (67) *Burchellii*.

Stipules lanceolate, subacute. Bracts inconspicuous, subulate.

Flowers in fascicles of 2-6. Stipules foliaceous, sericeous. (68) *crumina*.

Flowers solitary. Stipule minute, very hairy (69) *maculata*.

††Pod extruding from the calyx.

Leaflets narrowly elliptic or oblanceolate, acute, $\frac{1}{2}$ -2 $\frac{1}{2}$ cm. long, 2-3 mm. broad. (70) *laxa*.

Leaflets elliptic or obovate, subacute or rounded, 7-12 mm. long, 4-5 mm. broad. (71) *Woodii*.

**Carina obtuse.

†Calyx as long as the carina or exceeding it.

Leaflets sericeous, coriaceous. Vexillum slightly sericeous, 9-15 mm. long.

Terminal leaflet 2 $\frac{1}{2}$ cm. long. Calyx 1 $\frac{1}{2}$ cm. long. (73) *macrosepala*.

Terminal leaflet 1 $\frac{1}{2}$ cm. long. Calyx $\frac{3}{4}$ cm. long. (72) *humilior*.

Leaflets patently hirsute, thin-textured.

Leaflets 1 cm. long. Vexillum glabrous, 4-5 mm. long. (74) *desertorum*.

††Carina exceeding the calyx.

*Leaflets ferruginously sericeous or thickly hirsute-sericeous.

iPedicels slender, $\frac{1}{2}$ -1 $\frac{1}{2}$ cm. long, patently spreading. Leaflets linear-lanceolate, acuminate, 1-2 cm. long. (75) *uniflora*.

iiFlowers subsessile or shortly pedicellate.

a. Flowers subsessile. Vexillum narrow, 3-3 $\frac{1}{2}$ mm. broad. Twigs with spreading hairs.

Leaflets obovate-oblanceolate-cuneate, obtuse or subacute, 4-6 mm. long.

Carina 7-8 mm. long.

Flowers in pairs or threes. Leaflets densely sericeous. (79) *sericiflora*.

Flowers solitary. Leaflets densely hirsute-sericeous. (78) *adpressa*.

Leaflets linear elliptic, acuminate, 1-2 cm. long. Carina 1 cm. long.

Flowers 2-5-fascicled. (76) *Dinteri*.

b. Pedicels 3 mm. long. Vexillum broad, 4-5 mm. Twigs sericeous. (77) *mollis*.

**Leaflets silvery, shortly and sparingly sericeous.

a. Flowers whitish to brownish. Legume sericeous.

†Carina densely sericeous or pubescent.

Always perennial.

Vexillum 1 $\frac{1}{2}$ cm. long. Calyx 5-7 mm. broad, its nerves prominent. Stipules oblanceolate-cuneate. (80) *maroccana*.

Vexillum 7-8 mm. long. Calyx 3-4 mm. broad, its nerves obsolete. Stipules lanceolate-acute. (81) *genistoides*.

††Carina glabrous. Often annuals.

Legume 12-18 mm. long, flattened.

Leaflets obovate, oblanceolate, or narrowly elliptic.

Legume 3 mm. broad, often falcate.

Flowers invariably solitary. . . . (83) *falcata*.

Legume 4 mm. broad, always straight.

Flowers solitary. (84) *leptoloba*.

Flowers in 2's to 6's (82) *brachyloba*.

Legume 7-9 mm. long, turgescent.

Leaflets broadly obovate-cuneate or

obcordate-cuneate. (86) *pumila*.

b. Flowers blue. Legume hirtellous. (85) *Maximiliani*.

B. Leaflets glabrous or glabrescent on the upper surface.

iLimb of the carina ample, suborbicular or broadly triangular, reflexed exceeding the carina.

Leaflets linear elliptic, pungent. Vexillum with a median posticous longitudinal line of hairs.

Petiole averaging 4 mm. long. Legume sericeous. (89) *depressa*.

Petiole averaging 10 mm. long. Legume patently pubescent. (91) *pungens*.

Leaflets oblanceolate, rounded, truncate or emarginate. Vexillum entirely glabrous. (90) *flava*.

iiVexillum spatulate; limb oblong, shorter than the carina or subequalling it.

a. Carina entirely glabrous.

*Carina acute. Legume turgid.

Leaflets and calyces patently hairy. . . (92) *tenella*.

Leaflets and calyces more or less sericeous. (94) *versicolor*.

**Carina obtuse or rotundate. Legume compressed.

iLeaflets elliptic. Flowers 7 mm. long.

Perennial. Leaflets 4-5 mm. long. . . (100) *mucronata*.

Annual. Leaflets 10-20 mm. long. . . (87) *rara*.

iiLeaflets linear, 2 cm. long. Flowers 4 mm. long. (88) *tenuis*.

iiiLeaflets obovate-cuneate.

Carina not exceeding 5 mm. long.

Leaflets coriaceous, with a thick dorsal midrib. (95) *neglecta*.

Carina 6-10 mm. Leaflets thinly coriaceous, with the dorsal midrib only prominent towards the base.

Carina 6-7 mm. long. Prostrate or

diffuse, much-branched and slender.

Flowers few. (101) *Gerrardii*.

Carina 9-10 mm. long. Decumbent, sparingly branched, floriferous. . . (104) *ornata*.

b. Carina sparingly sericeous in front, or invested with small deciduous hairs.

iCalyx nearly as long as the carina or exceeding it.

Twigs and calyces villous.

- Seeds brick-red. Legume flattened, exceeding the calyx. (107) *calycina*.
 Seeds pale brown. Legume turgid, 8 mm. long, usually included within the calyx. (93) *orthorrhiza*.
 Twigs and calyces sericeous. Pod turgescent, included within the calyx, 5-6 mm. long. (106) *ambigua*.
 ii Calyx much shorter than the carina.
 Calyx patently pubescent. Carina 1 cm. long. (103) *Rehmannii*.
 Calyx sericeous.
 † Carina 5-6 mm. long.
 * Twigs white-tomentellous. Limb of the vexillum slightly sericeous above on the dorsal side.
 Calyx 2-3 mm. long. (98) *arida*.
 ** Twigs sericeous. Limb of the vexillum entirely sparingly sericeous posticously. Calyx 4-5 mm. long.
 Carina reflexed. (99) *pusilla*.
 Carina not reflexed. (108) *Dregeana*.
 †† Carina 7-10 mm. long.
 Plant silvery. Flowers small, pale cream. Limb of the vexillum with a median longitudinal posticous line of hairs. (105) *microphylla*.
 Plant seemingly glabrescent.
 Flowers large, ochreous. Limb of the vexillum entirely pubescent dorsally. (102) *humifusa*.
 c. Carina densely sericeous all over.
 Flowers solitary, few. Branches subsimple, prostrate or decumbent. Leaflet-margin thickened. (96) *carinata*.
 Flowers invariably in fascicles of 2's to 6's.
 Divaricately-branched, diffuse. Leaflet-margin unthickened (97) *florifera*.

§ 1. AULACINTHUS.

1. *L. GRACILIS*, Bentham in Hook. Lond. Jour. Bot. II. 597; Harvey in Harv. and Sond. Fl. Cap. II. 50. *Aulacanthus gracilis*, E. Meyer, l.c. 156. *Buchenroedera Meyeri*, Presl. Bot. Bemerk. 49.

South Africa. Western Region. Little Namaqualand: Roode Berg, 750-1050 m., *Drege a*! Ezelsfontein and Roode Berg, 1050-1200 m., *Drege b*! Little Namaqualand, *Scully*, 167! Herb. Norm. Aust.-Afr. 1125! Coast Region. Clanwilliam Div.: On the Koudeberg, Cederbergen near Wupperthal, 720 m., *Bolus*, 8971!

Var. ANOMALA, Harvey, l.c.

Little Namaqualand : Kamies Bergen, Pappé, 100.

This variety is not represented at Kew or the British Museum ; it is reputed to differ from the type in the relatively longer pods.

Var. BREVIPETIOLATA, Dümmer and Jennings, var. nova. A typo foliis brevipetiolatis, racemis laxe multifloris recedit.

Petioles 0·3–0·5 cm. long. Racemes laxly 7–10-flowered ; calyx sparsely silky or almost glabrescent.

In its other characters this variety conforms to the type, differing only in the shortly petiolate leaves, laxer, not rigid, more-flowered racemes.

Coast Region. Malmesbury Div. : Moorreesberg, 150 m., Bolus, 9959 !

Plate XIX.

2. L. LEUCOCLADA, Dümmer, comb. nov. *Lebeckia leucoclada*, Schlechter in Engler's Jahrb. XXVII. 143.

South Africa. Coast Region. Clanwilliam Div. : Oliphants River, 150 m., Schlechter, 8477 ! Central Region. Calvinia Div. : On hills, Bitterfontein, 390 m., Schlechter, 11049 !

A species wrongly assigned to *Lebeckia*, which differs from the preceding in its more robust habit, broader, cuneate, often emarginate leaflets and relatively larger flowers ; in general appearance it approaches *L. gracilis*, Benth., var. *brevipetiolata*, Dümmer and Jennings.

3. L. RIGIDA, Benth., l.c. 597 ; Harvey, l.c. 50. *Aulacanthus rigidus*, E. Meyer, l.c. 157.

South Africa. Coast Region. Worcester Div. : Near Mordkuil by the Doorn River, Boschesveld Range, Drège b !

Drège's specimen at Kew is incomplete, having no flowers and only one legume.

4. L. VIBORGIODES, Benth., l.c. 597 ; Harvey, l.c.

South Africa. Coast Region. Uitenhage Div. : Hassaquas Kloof, Zeyher ! Zeyher, 2319.

Without precise locality. Thom, 41 ! 537 ! Bowie ! Auge and Masson, in Herb. Brit. Mus. !

§ 2. KREBSIA.

5. L. CYTISOIDES, Benth., l.c. 598 (in part) ; Harvey, l.c. 50 (in part). *Telina cytisoides* and *T. ericocarpa*, E. Meyer, l.c. 68. *Krebsia stricta*, Eckl. and Zeyh. Enum. Pl. 179.

South Africa. Coast Region. Alexandria Div. : Between Hoffman's Kloof and Drie Fontein, Drège b ! Bathurst Div. : Between Port Alfred and Kaffir Drift, Burchell 3844 ! Near Barville Park, Burchell, 4140 !

Albany Div.: Albany, *Bowie* ! *Atherstone*, 49 ! Grahamstown, *MacOwan* !
 Stockenstrom Div.: Chumie Berg. *Ecklon* and *Zeyher*, 1284 ! Komgha
 Div.: Grassy places at the Key River, 320 m. *Drège a* ! Somerset East :
 Bruintjes Hoogte, *Burchell*, 3044 !

Eastern Region. Kentani Div.: Hill slopes, 360 m. *Alice Pegler*, 389 !
 Griqualand East : On slopes of Mount Currie, 1950 m., *Tyson*, 1351 !
 Natal : Between Umzimkulu and Umkomanzi River, *Drège a* ! Boschberg,
 1200 m., *MacOwan*, 896 !

Kalahari Region. Orange River Colony, *Cooper*, 1074 !

Var. *BREVIFOLIA*, comb. nov. *L. cytisoides*, Bentham and Harvey (in part). *Telina brevifolia*, E. and Z. ex *Drège* in *Linnaea* XIX. (1847), 639. *T. cytisoides*, E. Meyer, l.c. 68 (in part).

South Africa. Coast Region. Uitenhage Div.: Uitenhage, *Zeyher*, 856 !
 On grassy places, Addo, 300-600 m., *Drège c* ! *Harvey*, 856 ! British
 Kaffraria Div.: *Cooper*, 61 ! Albany Div.: Mouth of the Kowie River,
MacOwan, in *Herb. Hance*, 16072 ! Somerset East, *Scott Elliot*, 602 !

Eastern Region. Natal Div.: Boschberg, *Scott Elliot*, 602 !

Without locality. *Zeyher*, 2308 !

Var. *SERICEA*, *mihi* var. nova. A typo vexillo postice superne valde hirsuto-sericeo recedit.

Central Region. Prince Albert Div.: Burghersdorp, *Flanagan*, 1543 !
 (*Herb. Albany* and *Zürich*).

Eastern Region. Natal: Grassy hill, Umhlongwe, 150 m., *Wood*, 3011 ! 448 !

A species varying considerably in the length and breadth of the leaves and the nature of the indumentum; *Ecklon* and *Zeyher*'s specimens (No. 1284) are more erect and like *Drège*'s *Telina eriocarpa*, have a very hirsute calyx, but intermediate forms suggest the correctness of Bentham's interpretation of the species. The latter variety may easily be distinguished from the type by the vexillum, which is hirsutely sericeous posticously on the upper half, the lower half and short claw being glabrescent.

6. *L. BIFLORA*, Dümmer, comb. nov. *Buchenroedera biflora*, Bolus in *Jour. Bot.* (1896), 18.

South Africa. Eastern Region. Natal Div.: *Gerrard*, 1086, partly !
 Zululand Div.: Entumeni, 600 m., *Wood*, 3988 !

In the writer's opinion this species has been wrongly referred to *Buchenroedera*, as in its general facies it conforms to the *Krebsia* section of the genus, nor is the calycine character opposed to this view. It exhibits a close relationship to the preceding species, differing however in being more glabrous; leaves less acute or occasionally truncate, with

conspicuous midribs and thickened margins. The flowers show but little difference, the standard being slightly sericeous posticously.

7. *L. WYLIEI*, Wood, Natal Plants, IV. t. 350; Gard. Chron. (1904), ii. 182.

South Africa. Kalahari Region. Orange River Colony: Mont aux Sources, 2400–2700 m., *Evans*, 753!

Eastern Region. Zululand: Entumeni, 600–900 m., *Wylie*, *Herb. Wood*, 8962, 9442.

A singularly handsome and striking shrub, 4–5 feet high, easily recognised by the silvery indumentum, which recalls that of certain *Podalyrias*. The leaves are broadly cuneate, the flowers the largest of the section, of a deep blue, of which the standard is densely fulvously pubescent on the dorsal surface. Specimens of Wylie's collections are apparently not at Kew, but No. 753 of Evans undoubtedly represents a more inland form of this species.

8. *L. CARNOSA*, Bentham, l.c. 598; Harvey, l.c. 51. *L. buchenroederoides*, Schlechter, in Jour. Bot. (1897), 279. *Telina striata*, E. Meyer, l.c. 68. *Krebsia carnososa*, Ecklon and Zeyher, Enum. Pl. 180.

South Africa. Coast Region. Fort Beaufort Div.: Winterberg, *Mrs. Barber*! Queenstown Div.: Leysseton Nek, 1200 m., *Galpin*, 1951! Somerset East, *MacOwan*, 930!

Eastern Region. Tembuland Div.: Tsomo River, *Mrs. Barber*, 794! Pondoland Div.: Between Umtata and the St. John's River, *Drège*! Griqualand East: Stony places above Kokstad, 1500 m., *Tyson*, *Herb. Norm. Aust.-Afr.*, 517! *Tyson*, 1104! ex *Herb. Bolus*, 6161! Natal: Grassy slopes of the Boschberg, 1200 m., *MacOwan*, 228!

Without precise locality. *Bowker*! *Mrs. F. W. Barber*, 780! *Herb. Bolus*, 187! 311!

Var. *CONDENSATA*, Harvey, l.c. 594.

South Africa. Eastern Region. Transkei Div.: *Bowker*, *Herb. Dublin*.

The variety is unknown to me, but the description infers that it is distinct; it is reputed to differ in the longer, linear stipules and the terminal subumbellate racemes. *L. buchenroederoides*, Schlechter, is inseparable from this species.

9. *L. DIVARICATA*, Bentham, l.c. 599; Harvey, l.c. 51. *L. genuiflexa*, Bentham, l.c.; Harvey, l.c. *Telina genuiflexa*, E. Meyer, l.c. 69. *Krebsia divaricata*, Ecklon and Zeyher, Enum. Pl. 179. *K. genuiflexa*, Steud. Nom. ed. II. i. 850. *Aspalathus obtusata*, DC. Prod. II. 143? (not Thunb.). *Leptidium divaricatum*, Presl. Bot. Bemerck. 49.

South Africa. Coast Region. Queenstown Div.: Stony places on mountain-slopes near Shiloh on the Klipplaat River, *Ecklon* and *Zeyher*, 1825! Mountain-sides, Queenstown, 1200–1500 m., *Galpin*, 1947! Cathedral Div.: Windvogelberg and Zwart Kei River, 900–1200 m., *Drège* a!

Central Region. Albert Div.: Burghersdorp, *Cooper*, 782! 571. Somerset Div.: *McArthur*, 34! Colesburg Div.: At Naauw Poort, *Burchell*, 2777! Zuureberg Range, *Burke*, 391! Murraysburg Div.: On the banks of a river near Murraysburg, 1300 m., *Tyson*, 97! Graaff Reinet Div.: *Bowker*, 20!

Mr. N. E. Brown is disposed to agree with me that the two species proposed by Bentham cannot now be maintained, as more recent material tends to show their conspecificity.

10. *L. SERICOPHYLLA*, Bentham, l.c. ; Harvey, l.c.

South Africa. Coast Region. Caledon Div.: Wolf Kloof, near Caledon, *Burke* and *Zeyher*! *Zeyher*, 399.

11. *L. GALPINII*, Dümmer, sp. nov. distincta *L. sericophyllae*, Bentham, affinis sed habitu dense ramosiore, indumento carina alisque exceptis valde griseo-strigilloso, ramis brevibus recedit.

Fruticulus dense ramosissimus, ad 15 cm. altus, ubique nisi alis carinaque valde griseo-strigillosus, conferte foliatus; rami ad 7 cm. longi, superne foliati, inferne nudi, subangulati, nigrescentes. *Folia* trifoliolata; petioli foliola aequantes, compressiusculi; foliola saepissime conduplicata, anguste cuneata, acutata, subaequilonga, 3–3·5 mm. longa, juniora utrinque pallide ochraceo-strigillosa, mox cinerascens-strigillosa, coriacea; stipula unica, foliolis similis, saepius paulo major. *Flores* singuli, folio oppositi, vel ramulos laterales brevissimos terminantes aut terminales, bracteolati, violaceo-purpurei (ex *Galpin*); pedicelli 2 mm. longi, bracteola subulata medio instructi. *Calyx* circiter 6 mm. longus, ad medium fissus, extra griseo-pilosus; lobi superiores inferiore paululo breviores. *Vexillum* perbreviter unguiculatum, in toto 10 mm. altum; lamina fere reniformis, dorso valde griseo-strigillosa, basin versus glabrescens; alae omnino 7·5 mm. longae, glaberrimae, limbo oblique oblongo obtuso basi vix auriculato; unguis limbo brevior; carina alis paulo longior, glabra, limbo oblique late naviculare 5 mm. longo 3 mm. lato obtuso basi obtuse sagittato. *Stylus* fere genuflexus. *Legumen* fere rectum, anguste oblongum, vix turgidum, 15 mm. longum, 2–2·5 mm. latum, undique valde griseo-strigillosum.

South Africa. Eastern Region. Natal: Source of the Tina River, summit of the Drakensberg, 2625 m. *Galpin*, 6600!

Var. *PROSTRATA*, *mihi* var. nova. A typo habitu prostrata, foliolis paulo majoribus distinguitur.

Natal. Eastern slopes of the Drakensberg, Tsitsa Footpath, 2355 m., Galpin, 6601!

12. *L. DICHLOIDES*, Sonder in Linnaea, XXIII. 1850, 28; Harvey, l.c. Wood, Natal Plants, VI. t. 509.

South Africa. Eastern Region. Natal: Near Durban, *Gueinzins*, 25 and 632. Inanda, *Wood*, 958! *Gerrard*, 1084! *Mrs. K. Saunders*! Mount Moreland, 120 m., and grassy flats, Umhlali, 150 m. *Haygarth* ex *Herb. Wood*, 740!

13. *L. HIRSUTA*, Schinz in Bull. Herb. Boiss. VII. (1899), 33.

South Africa. Kalahari Region. Transvaal: Houtbosch, *Rehmann*, 6265! Makapansberge, Streydpoort, *Rehmann*, 5532! On the mountains about Houtbosch, 1350–1470 m. *Bolus*, 10947! Modderfontein, 126! 126a!

Distinguished from the preceding by the dwarfer, more hirsute habit, shorter, more acuminate leaflets, and smaller rose-coloured flowers.

14. *L. TRANSVAALENSIS*, Dümmer, sp. nov. *L. hirsutae*, Schinz, affinis, sed laxe foliata, pilis brevibus arcte adpressis haud patentibus instructa, foliolis longioribus angustioribus, floribus paucioribus recedit.

Herba perennis e basi lignescente ramosa, undique foliorum pagina superiore excepta adpresse breviter strigillosa, caulibus ascendentibus perpauca fere simplicibus gracillimis teretibus ad 20 cm. altis laxe foliatis pallide brunneis aut citrinis, internodiis ad 3·5 cm. longis. *Folia* trifoliolata; petioli plerumque 5 mm. longi, supra canaliculata; foliola recta vel interdum paullulo falcata, anguste oblanceolata, acutata, 7–13 mm. longa, 1–2 mm. lata, inter se aequalia aut interdum terminalia lateralibus paulo longiora, subtus adpresse breviter strigillosa, medio costata, supra glaberrima costa immersa, subcoriacea, virescentia, margine incrassata; stipulae binae, foliolis similes, sed duplo aut triente breviores et angustiores. *Flores* bini vel interdum usque ad 5 in axillis foliorum superiorum aut oppositifolii umbellatim congesti aut rarissime in racemos laterales secundos brevissimos dispositi, pedicellis ad 1·5 mm. longis suffulti. *Calyx* 5–6 mm. longus, subquinquefidus, extra stramineo-sericeus, laciniis subulatis. *Vexillum* ad 9 mm. altum; lamina ovata, acutata, e basi rotundata, ungui lato duplo saltem longior, intra glabra, rubida, extra undique sericea; alae breviter unguiculatae, in toto 6–7 mm. longae, laminis rectis anguste oblongis obtusis e basi auriculatis, ad marginem infimum breviter ciliatis; carina alis similis nisi latior et extra undique sericea, frontem versus rubescens. *Ovarium* circiter 5 mm. longum, stylo leviter curvato superne glabro ovario aequalto. *Legumen* immaturum?, oblongum, rectum, compressiusculum, 7 mm. longum, 2·5 mm. latum, parce sericeum.

South Africa. Kalahari Region. Transvaal: Krügerspost at Lydenburg, *Wilms*, 226a! 226!

The species is easily distinguished from *L. hirsuta*, Schinz, by the inconspicuous indumentum, and fewer and longer leaves. *Wilms's* specimens are labelled *Buchenroedera* sp.

15. *L. PAUCIFLORA*, Dümmer, sp. nov. *L. transvaalensi*, Dümmer, affinis, sed habitu graciliore rigidioraque, foliis paullulo brevioribus angustioribus, utrinque adpresse strigillosis, floribus solitariis paucis recedit.

Fruticulus circiter 20 cm. vel altior, fere ubique inconspicue adpresse breviter strigillosus, e basi lignoso ramosus, caulibus paucis parce ramosis ascendentibus aut subfastigiatis gracillimis teretibus pallide citrинеis laxе foliatis. *Folia* ascendentia, internodiis aequilonga vel breviora, trifoliolata; petioli teretiusculi, 2-4 mm. longi, pallide citrinei; foliola lineari-lanceolata vel lineari-oblongeolata, acutiuscula vel paulo reflexo-acutata, basin versus sensim angustata, circiter 5-8 mm. longa, 1-2 mm. lata, terminalia lateralibus paulo longiora, subcoriacea, subtus costa prominula, supra costa impressiuscula, utrinque parce adpresse strigillosa, pallide viridescens; stipulae binae, erectae, oblique lanceolatae, acutae, ad 5 mm. aut longiores. *Flores* solitarii, folio oppositi, flavescentes?, breviter pedicellati, ascendentes vel post anthesim patentes. *Calyx* 5-6 mm. longus, extra valde sericeus, laciniis superioribus subulatis tubo aequilongis, lobo inferiore ceteris paullulo breviorе. *Vexillum* breviter unguiculatum, 8-10 mm. altum, limbo ovato apicem versus sensim acuto basi abrupte rotundato, postice ubique sericeo intra glabro; alae anguste oblongae, lamineis 4-5 mm. longis obtuse-rotundatis auriculatis ad margines inferiores sparse adpresse hirsutulis, unguibus curvatis scariosis glabris limbo fere aequilongis; carina 5 mm. longa, 2 mm. lata, basi anguste auriculata, extra omnino parce sericea, (sicco) violaceo-purpurea, ungui recto gracili 2-2.5 mm. longo glabro stramineo. *Ovarium* utrinque nisi suturo inferiore sericeum, stylo apicem versus subcurvato glabro ovario fere aequilongo, stigmatе oblique subcapitato. *Legumen* leviter turgidum, rectum, 10 mm. longum, parce sericeum, fuscum, styli basi persistente coronatum.

South Africa. Eastern Region. Natal; Drakensberg Range, Coldstream, *Rehmann*, 6904!

16. *L. DIGITATA*, Harvey, l.c. 52.

South Africa. Western Region. Little Namaqualand: Between rocks near Spektakel, 360 m., *Bolus*, *Norm. Aust.-Afr.* 430! *Herb. Bolus*, 6551! On hills near Stinkfontein, 270 m., *Schlechter*, 11075!

It is curious that Harvey mentions this species as having been

gathered in the Eastern Provinces by Captain Carmichael about 1814, as all specimens obviously agreeing with his description, and observed by the writer, come from the Western Region of Cape Colony in Little Namaqualand.

17. *L. BENTHAMIANA*, Dümmer, sp. nov. *L. digitatae*, Harvey, affinis, sed foliis brevius petiolatis brevioribus obtusis, carina late naviculari vexillum aequilongae, leguminibus recedit.

Fruticulus xerophyticus, ad 30 cm. altus, interdum fere aphyllus, ramis lateralibus patentibus saepe distiche dispositis ad 7·5 cm. longis vel rarissime fere abortivis laevibus inconspicue adpresse pubescentibus demum glabris pallide stramineis parce foliatis. *Folia* quinquefoliata, rarissime trifoliolata; petioli 2–4 mm. longi, ubique inconspicue adpresse pubescentes; foliola anguste oblanceolato-cuneata, rotundata aut recurvo-apiculata, superiora 3–6 mm. longa, infima ceteris paulo breviora, subtus parissime adpresse pubescentia, deinde utrinque glabra, coriacea, viridescens; stipulae singulae, falcato-lanceolatae, acutae, 1–2 mm. longae. *Racemi* oppositifolii aut axillares, circiter 10 mm. longi, 3–4-flori, rarius uniflori, floribus breviter pedicellatis pallide stramineis, bracteola subulata minutissima suffultis. *Calyx* ad 6 mm. longus, extra sericulum, mox glaber, dentibus superioribus anguste triangularibus longitudinis fere attingentibus 1 mm. longis, lobo antico deflexo subulato 3 mm. longo. *Corolla* glaberrima; vexillum in toto 10 mm. altum, lamina late elliptica 3·5 mm. lata utrinque paullulo angustata tunc e basi subito truncata, aliquando in unquam brevem attenuata; alae conduplicatae, fere rectae; limbi oblongi, 8 mm. longi, obtusi, e basi truncati, vix sagittati, ungui 2 mm. longo; carina in toto 10–11 mm. longa, limbo late naviculare fere 5 mm. lato obtuso basi valde saggitato aut obtuse auriculato. *Stylus* valde prorso curvatus, ovario dimidio brevior. *Legumen* breviter stipitatum, dolabriforme, 10–11 mm. longum, compressum, sericulum, 3–4-spermum. *L. quinata*, Harvey, op. cit. 63 nec Benth. *Ononis quinata*, Thunb. Prod. 130?

South Africa. Western Region. Little Namaqualand: Near Ookiep, Morris ex Herb. Bolus, 5622! Scully, Herb. Norm. Aust.-Afr., 1127! Scully, 150! Steinkopf, *M. Schlechter*!

Harvey erroneously associated this plant with *L. quinata* of Benth. who founded his description upon E. Meyer's *Lipozygis quinata*, a wholly distinct plant, which is easily distinguished by its less robust habit (an annual occasionally), shorter and more strigillose leaflets, narrower flowers and legumes. I have been unable to ascertain whether *Ononis quinata*, Thunberg, is a synonym of this proposed species.

§ 3. TELINA.

18. *L. BRACTEATA*, Bentham in Hook. Lond. Jour. Bot. II. 600. Harvey, l.c. 53.

South Africa. Kalahari Region. Transvaal. Mooi River, *Burke* and *Zeyher*, *Herb. Kew*, 385!

19. *L. AZUREA*, Bentham, l.c. 600; Harvey, l.c. 53. *Telina heterophylla*, E. Meyer, l.c. 69, excl. syn. *Crotalaria azurea*, Ecklon and Zeyher, l.c. 174.

South Africa. Coast Region. Humansdorp Div.: Between the Kabeljouw and the Gamtoos River, *Drège*! Uitenhage Div.: Near Uitenhage, *Zeyher*, 922! Vanstadens River, 75 m., *Schlechter*, 6072! *Bowie*! Port Elizabeth Div.: Krakakamma and Port Elizabeth, *Ecklon* and *Zeyher*, 1262! Near Port Elizabeth, *Pappe*! *Burchell*, 4528! In sandy places near Algoa Bay, *MacOwan*, 1127! *Mrs. T. V. Paterson*, *Herb. Zürich*, 179!

Var. *LANCEOLATA*, Harvey, l.c. *Ononis villosa*, Thunb. Prod. 129.

Coast Region. Oudtshoorn Div.: On hills at the Moerass River, between Oudtshoorn and Robinson's Pass, 480 m., *Bolus*, 11767!

20. *L. MINOR*, Dümmer et Jennings. *L. azureae*, Bentham, similis nisi partibus omnibus minor.

Herba perennis, parvula, prostrata aut decumbens, magis minusve parcesissime breviter adpresse strigillosa, caulibus brevissimis conferte foliatis. *Folia* trifoliolata, unistipulata; petioli ad 4 mm. longi, incrassati, supra sulcati; foliola anguste oblanceolata aut cuneata, acutata vel rotundata, aequilonga, 3–7 mm. longa, 1–2.5 mm. lata, basi paullulo barbata, vix nervata, coriacea, glaucescentia; stipula reflexa, oblanceolata, foliolis similis, petiolo aequalis vel eo longior. *Flores* oppositifolii, singuli, pedunculati, violaceo—purpurei (fide *Galpin*); pedunculus arcuato-gracilis, ad 2 cm. longus, bracteola unica, subulata, 3 mm. vix excedente. *Calyx* circiter 5 mm. longus, extra parce adpresse strigillosus, mox glaber, lobis aequilongis subulatis tubum aequantibus vel eo longioribus ciliatis. *Vexillum* unguiculatum, toto 10–12 mm. altum, lamina suborbiculari postice superne sericula, ungui glabro fere aequali; alae unguiculatae, in toto 6 mm. longae, limbis curvato-oblongis rotundatis glaberrimis, carina alis similis sed paullulo longior. *Ovarium* ad margines hirsutulatum, stylo valde proorso arcuato glabro, stigmatibus oblique subcapitato. *Legumen* anguste oblongum, rectum, vix turgidum, 10 mm. longum, suturis strigillosis basi calyce persistenti instructum.

South Africa. Eastern Region. Mount Fletcher Div.: Doodman's Krans Mountain, 2700 m. *Galpin*, 6602, *Herb. Kew*!

L. azurea in miniature.

21. *L. PROSTRATA*, Benth. l.c. 600; Harvey, l.c. 53. *L. vexillata*, Eckl. and Zeyh. l.c. 176. *Telina prostrata*, E. Meyer, l.c. 69. *Ononis prostrata*, Burm. Prod. 21. *O. heterophylla* and *O. elongata*, Thunb. Prod. 129. *Crotalaria vexillata*, E. Meyer, in Linnaea, VII. (1832), 153.

South Africa. Coast Region. Cape Div.: Cape Town, *Bowie*! *Alexander*, 37! Lion's Back, *Wolley Dod*, 29! Oude Molen, *Wolley Dod*, 2793! Seapoint side of Lion's Head, *Scott Elliot*, 1059! *Tyson*, 2504! Lion's Head, 150 m., *Drège b*! At the foot of Lion's Head and Signal Hill, *Ecklon*, 424! *Pappe*! 90-300 m., *Herb. Dümmer*, 397! *Dümmer*, *Pl. Penin. Cap.* 60 F! Green Point, *MacOwan*, 30 m., 1830! 3290! On the slopes of Devil's Peak and Lion's Head, *Ecklon* and *Zeyher*, 1270! *Wilms*, 3147!

Without precise locality. *Forbes*! *Harvey*! *Pappe*! *Lehman*! *Mund* and *Maire*! *Bowie*! *Masson*! *Brown*!*

Var. *GLABRIOR*, Benth. l.c.; Harvey, l.c. 53. *Lotononis excisa*, Steud., Nom. Bot. II. 73. *Telina excisa*, E. Meyer, l.c. 70.

South Africa. Coast Region. Worcester Div.: Dutoit's Kloof Mountains, 600 m. *Drège*!

Without locality. *Bowie*!

Var. *HETEROPHYLLA*, Harvey, l.c. *L. heterophylla*, Ecklon and Zeyher, Enum. Pl. 177.

Coast Region. Tulbagh Div.: Near Tulbagh, *Pappe*! *Ecklon* and *Zeyher*, 1273.

Var. *MAJOR*, Dümmer, var. nova, floribus fere duplo majoribus.

Habitu specie sed robustior; vexillum perbreviter unguiculatum; lamina reniformis, 22 mm. lata, dorso medio linea pilorum instructa.

Coast Region. Malmesbury Div.: Darling, *Bachmann*, *Herb. Zürich* and *Kew*, 569!

22. *L. MACRA*, Schlechter in Jour. Bot. (1898), 373; *L. maira*, K. Schumann in Just Jahresb. XXVI. i. 354.

South Africa. Coast Region. Clanwilliam Div.: Clayey slopes near Wupperthal, 1050 m., *Schlechter*.

This plant, according to the author, shews an alliance to *L. varia*, Steud., and *L. macrocarpa*, E. and Z., but may be readily recognised by its habit, linear acute leaflets, and stipules, and by the pilose standard and ovary. According to him it is rare, two plants having only been found by him among *Elytropappus Rhinocerotis*, Less., the Rhenoster Bosch of the Colonists.

* The collections of Bowie, Masson, Niven, and R. Brown are with few exceptions preserved in the British Museum.

23. *L. VILLOSA*, Steud. ex Benth in Hook. Lond. Jour. Bot. II. 601; Harvey, l.c. 54; *Telina villosa*, E. Meyer, l.c.; *Lipozygis villosa* Bth. l.c. 609.

South Africa. Coast Region. Malmesbury Div.: Riebeck's Castle below 300 m., *Drège*!

24. *L. ACUMINATA*, Ecklon and Zeyher, Enum. Pl. 176; Harvey, l.c.

South Africa. Uitenhage Div.: On the fields by the Zwartkops River, *Zeyher*, 868! *Ecklon* and *Zeyher*, 2309! Albany Div.: Albany, *Bowie*! Port Elizabeth Div.: Along the Bakens River near Port Elizabeth, *Burchell*, 4361!

25. *L. ARGENTEA*, Ecklon and Zeyher, Enum. Pl. 176; Harvey, l.c. 54. *Leptis argentea*, Walp. Repert. ii. 837. *Lipozygis argentea*, Meisn. ex Hook. Lond. Journ. Bot. ii (1843), 80.

South Africa. Coast Region. Robertson Div.: Barren hills between Kokmanskloof and the Gauritz River, *Ecklon* and *Zeyher*, 1272.

A small specimen collected by Burchell (Nr. 4463) near Uitenhage may probably belong here, but the material is insufficient to be absolutely conclusive.

26. *L. VARIA*, Steud. Nom. Ed. II. ii. 73; Benth in Engler's Bot. Jahrb. XXVII. (1900), 147. *Telina varia*, E. Meyer, l.c. *Polylobium varium*, Presl. Bot. Bemerck. 135.

South Africa. Coast Region. Paarl Div.: Drakenstein Mountains, 600–900 m., *Drège b*! French Hoek, 960 m., *Schlechter*, 9237! Cape Div.: Table Mountain, 300–600 m., *Drège a*! Cape Town, *Alexander*! Stellenbosch Div.: On slopes, Schongezigt, near Stellenbosch, J. X. M. *Herb. Bolus*, 6495! Caledon Div.: Near Palmiet River, *Guthrie*, *Herb. MacOwan*! *Grisbrook*, *Herb. Bolus*, 4743! Swellendam Div.: On the plains near Swellendam and Uitenhage, *Bowie*! Near Breede River, *Bowie*!

Without locality, *Thom*, 724!

Schlechter's specimens are identical with those of *Drège's* upon which the species was founded, hence his name cannot be maintained.

27. *L. SOLITUDINIS*, Dümmer. *L. prostratae* valde affinis sed paene toto glabra, stipulis minutis, folioli late subobcordatis aut fere rotundatis, calyce breviori, facile distinguenda.

Herba perennis, habitu *L. prostratae*, Benth., similis sed paene ubique glabra et minus diffusa. *Folia* trifoliolata; petioli ad 6 mm. aut saepissime breviores, complanati, supra paullulo sulcati; foliola late subobcordata aut fere rotundata, terminalia sessilia, 6 mm. longa vel breviora, lateralia perbrevisiter petiolulata, terminalibus duplo minora, vix nervata, subcoriacea,

siccantia fere nigrescentia; stipulae binae? late subulatae, 1 mm. haud superantes. Flores folio oppositi, singuli, longe pedunculati, flavidi?; bracteolis aperte obsoletis; pedunculus ad 45 mm. altus aut brevior. *Calyx* ad 5 mm. longus, dentibus superioribus (4) late deltoideis 1-1.5 mm. longis, inferiore simili nisi paulo angustiore et longiore. *Vexillum* longe unguiculatum, in toto 12 mm. altum, lamina anguste (transverse) reniformis, ungui rigidiore brevior; alae unguiculatae, lamina ungui fere aequali, late oblonga, obtusa, e basi fere truncata; carina alis similis, nisi paullulo longior latiorque. *Ovarium* 7 mm. longum, rectum, glabrum, stylo arcuato-geniculato brevius. *Legumen* ignotum.

South Africa. Kalahari Region. Transvaal. At Klaste? on the Vaal River, *Wilms, Herb. Mus. Brit.* 400!

L. solitudinis superficially resembles one-flowered forms of *L. prostrata*, Benth. and *L. varia*, Steud., but the entire glabridity of the plant easily distinguishes it from either; the stipules are also very minute, while the calyx is comparatively short; its isolated inland distribution from a section, which is more or less geographically confined to the coastal regions, has suggested the specific name. Like *L. macrocarpa*, Eckl. and Zeyh., the plant dries a dark brown or black.

28. *L. MACROCARPA*, Ecklon and Zeyher, Enum. Pl. 176, Bentham, l.c. 602; Harvey, l.c. 55.

South Africa. Western Region. Little Namaqualand: Modderfontein (Karies), 100 m. *Schlechter*, 7969!

Coast Region. Clanwilliam Div.: Brak Fontein, *Zeyher*, 403! Piquetberg Div.: Piquenier's Kloof, 255 m. *Schlechter*, 4925. Malmesbury Div.: Vicinity of Hopefield, *Bachmann, Herb. Schinz*, 1970!

29. *L. MARLOTHII*, Engler, in Bot. Jahrbuch, X. (1888), 26.

South Africa. Kalahari Region. Griqualand West: In sandy places near Kimberley, 1200 m. *Marloth, Herb. Engler. Marloth*, Exs. aust.-afr. 765! *Christiana, Nelson*, 197! *Scott Elliot*, 1243!

30. *L. BARBERAE*, Dümmer, sp. nov. *L. Marlothii*, Engler, valde affinis sed partibus omnibus majoribus, racemis 2-5-floris recedit.

Herba perennis, multiramosa, diffusa, omnino parvissime adpresse strigillosa aut demum glabrescens, caulibus decumbentibus gracillimis ad 12 cm. longis vel longioribus internodiis variantibus. *Folia* trifoliolata; petioli patentes, 20-25 mm. rarissime ad 70 mm. longi, supra profunde sulcati; foliola elliptica aut lineare-lanceolata vel oblanceolata, fere utrinque angustata, interdum apiculata, lateralia 5-20 mm. longa, 2-4 mm. lata, rarissime 40 mm. longa, terminalia paulo vel interdum duplo longiora, utrinque paene glabrescentia, subtus costa inferne prominente superne

evanida, supra laevia, herbacea, pallide viridescens; stipulae singulae aut binae? minutae, ovato-acutae vel subulatae. *Racemi* axillares, paene secundi, 2-5-flori, pedunculo gracillimo paullulo arcuato 20-40 mm. longo glabro. *Flores* patentes, perbrevis pedicellati, undique glabri, bracteola lineari minutissima. *Calyx* 2.5-3 mm. longus, dentibus subulatis tubo paene aequilongis. *Vexillum* 5-6 mm. altum, membranaceum, limbo orbiculare ungui paulo longiore; alae anguste oblongae, 6 mm. longae, basi subsagittatae; carinae limbus late navicularis, obtusus, basi hastatus. *Ovarium* 3 mm. longum, suturis fronteque hirsutum, stylo arcuato glabro fere longius, stigmatibus oblique subcapitato. *Legumen* anguste oblongum, subfalcatum, 7-8 mm. longum, 8-spermum, glabrescens.

South Africa. Kalahari Region. Orange River Colony: Without precise locality, *Mrs. Barber*!

Differs from *L. Marlothii* in its more luxuriant habit and 2-5-flowered, almost secund racemes, and though bearing a striking resemblance to forms of *Listia heterophylla*, its legumes are essentially those of a *Lotononis*.

31. *L. MAGNISTIPULATA*, Dümmer, ab *L. Marlothii*, fere omnino patentim hirsutula, foliolis brevius petiolatis majoribus ciliatis floribusque recedit.

Herba perennis, diffusa aut prostrata, distiche ramosa, ramulis gracilibus ad 7.5 cm. longis teretibus patentim hirsutis aut adpresse strigillosis. *Folia* bistipulata, trifoliolata; petioli ad 5 mm. longi; foliola obovata vel elliptica, breviter acuta sed saepe utrinque angustata, inter se aequalia, ad 10 mm. longa, 5 mm. lata, subcoriacea, subtus obscure costata, adpresse pilosula, supra costa impressa, demum glabra, ciliata; stipulae foliolis simulantes, saepissime aequimaginae, acutae aut cuspidatae. *Inflorescentia* terminalis vel axillaris, 2-flora, rarissime uniflora; flores umbellato-dispositi, flavidi, pedunculo ebracteato gracili ad 25 mm. longo adpresse strigilloso; bracteola subulata, calyce brevior. *Calyx* 6 mm. longus, infra medium fissus, parvis adpresse pilosis aut demum glaber, laciniis anguste triangularibus subaequilongis. *Vexillum* 8 mm. altum, membranaceum, limbo orbiculare posteriore ad costam marginemque apicem versus adpresse hirsutum, ungui parvulo glabro; alae breviter unguiculatae, late oblongae, fronte rotundatae, basi superne subauriculatae, glabrae, limbis 5 mm. longis unguibus tertio longioribus; carina alis simulans nisi latior. *Ovarium* rectum, valde adpresse hirsutum, 5 mm. longum, stylo curvato duplo brevius, stigmatibus oblique subcapitato.

South Africa. Eastern Region. Natal: Faku Territory, *Sutherland*, *Herb. Kew*!

§ 4. POLYLOBIUM.

32. *L. UMBELLATA*, Benth., l.c. 602; Harvey, l.c. 55. *Lipozygis umbellata*, E. Meyer, l.c. 76. *Polylobium filiforme* and *P. truncatum*,

Eckl. and Zeyh. Enum. Pl. 181. *P. umbellatum*, Bth., in Ann. Wien, Mus. II. (1838), 142. *Ononis strigosa*, Thunb. Prod. 130, *O. anthylloides*, DC. Prod. II. 168.

South Africa. Coast Region. Paarl Div.: Klein Drakenstein Mountains, 300 m. *Drège a!* Cape Div.: On the slopes of the Devil's Peak and Table Mountain, *Ecklon* and *Zeyher*, 1292! *Rehmann*, 850! 851! *Alexander*, 42! *Ecklon*, 568! *Wilms*, 3146! *Wolley Dod*, 27! 1355! *Dümmer*, Herb. 154! *Dümmer*, Pl. Penin. Cap. 15 C! At the foot of Table Mountain near Wynberg, 90 m., *Bolus*, 4702! Slopes of Lion's Head, *MacOwan* and *Bolus*, 68! Swellendam Div.: Zondereinde River near Linde, *Ecklon* and *Zeyher*, 1291. Swellendam, *Bowie!* George Div.: Between Malgaten and the Great Brak River, *Burchell*, 6146!

Without locality. *Harvey*, 102! *Lehman!* *Niven*, 132! *Masson!*

33. *L. PROCUMBENS*, *Bolus* in Jour. Bot. (1896), 18.

South Africa. Kalahari Region. Orange River Colony: Bester's Vlei, Harrismith, 1620 m., *Bolus*, 8139! *Sankey*, 44!

34. *L. DEBILIS*, *Bentham*, l.c. 604; *Harvey*, l.c. 55. *Polylobium debile*, *Ecklon* and *Zeyher*, Enum. Pl. 181. *Leptidium debile*, *Presl*. Bot. Bemerk. 49.

South Africa. Coast Region. Swellendam Div.: Carroid hills near Hassaquas kloof, *Ecklon* and *Zeyher*, 1290. Zondereinde River, *Zeyher*, 2316. Port Elizabeth Div.: Sand dunes near Port Elizabeth, 15 m., *Bolus*, 2666!

35. *L. BACHMANNIANA*, *Dümmer*, sp. nov. *L. debili*, *Bentham*, affinis nisi mox toto glabra et rigidior, foliolis longioribus obovato-lanceolatis, stipulis geminis, calycibus inconspicue sericeis.

Planta fere toto glabra, e basi lignescente perenni, caulibus paucis decumbentibus vel ascendentibus gracilibus teretiusculis parce foliatis ad 18 cm. longis. *Folia* ascendentia, trifoliolata, omnino glabra; petioli foliolis aequilongi vel duplo longiores, supra sulcata; foliola obovato-lanceolata, cuneata, rotundata, mucronata, intermedia 9–14 mm. longa, 2·5–3·3 mm. lata, lateralia breviora, subcoriacea, mox glabra, supra costa impressa, subtus costa prominula nervis lateralibus obsoletis; stipulae binae, arrectae, subulatae, circiter 4 mm. altae. *Capitulum* oppositifolium, 5–8-florum, floribus ochraceis; pedunculus ad 3 cm. altus, pedicellis cum calycibus parce sericeis 6–7 mm. longis. *Calycis* dentes deltoidei, subulati, vix 1·5 mm. excedentes. *Vexillum* brevissime unguiculatum; lamina reniformi, circiter 1 cm. lata; alae graciliter unguiculatae, toto 8–9 mm. longae, limbis oblongiusculis rotundatis basi fere attenuatis; carina alis similis sed lamina late naviculari rotundata basi truncata. *Ovarium* dorso hirtellum, stylo valde arcuato glabro.

South Africa. Eastern Region. Pondoland. *Bachmann, Herb. Zürich* and *Kew*, 578!

Distinguished from *L. debilis*, Bth., by its less branched glabrous habit, obovate-lanceolate leaflets and totally glabrous corollas.

36. *L. PALLENS*, Bentham, l.c. 605. Harvey, l.c. 56. *Polylobium pallens*, Ecklon and Zeyher, Enum. Pl. 182.

South Africa. Coast Region. Clanwilliam Div.: Mountain-sides near Brak Fontein, *Ecklon* and *Zeyher*, 1294. This species is not included in the collections examined by me.

37. *L. ANGOLENSIS*, Welwitsch ex Baker in Oliv. Fl. Trop. Afr. ii. 6. *Argyrolobium deflexiflorum*, Baker in Kew Bulletin (1897), 253.

Tropical West Africa. Angola. Huilla and Pungo Andongo, 720–1650 m., *Welwitsch*, 1895 and 1896! Mossamedes, *Newton*, 97! North-West Rhodesia; on mica schist near Pemba, 1050 m., *Rogers*, 8558! Makoli, *Rogers*, 8285! Between Goudkopje and Katzele, 1250 m. *Baum, Herb. Zürich*, 199!

Tropical East Africa. Tanganyika Plateau, Fort Hill, 1050–1200 m., *Whyte*!

38. *L. BAINESII*, Baker, l.c.

Tropical South-West Africa; lat. 23°. *Chapman* and *Baines*! German South-West Africa, Hereroland, *Dinter*, 473!

This species is very closely allied to the preceding, and more material may hereafter suggest its approximation to it.

39. *L. INVOLUCRATA*, Bentham, l.c. 602 (in part).

A diffuse or decumbent plant, densely covered all over, excepting the upper surfaces of the leaflets and the corolla, with long spreading foxy hairs; shoots up to 35 cm. ft. long, angular, distichously branched (very rarely simple), the lateral branchlets rarely exceeding 15 cm. in length, densely leafy. *Leaves* trifoliate; petiole up to 10 mm. long, flattened; leaflets linear to lanceolate, subacute, the lateral slightly falcate and up to 14 mm. long; terminal invariably straight and slightly larger, subcoriaceous; stipules geminate, spreading, leaf-like but more acute. *Umbels* indistinctly pedunculate, subglobose, 5–10-flowered, subtended by a whorl of conspicuous and leafy ovate-lanceolate, often cuspidate bracts; flowers shortly pedicellate. *Calyx* about 10 mm. long, densely covered externally with long foxy hairs and cleft below the middle; segments subulate. Standard clawed, 12 mm. high; limb broadly triangular, obtuse, almost truncate at the base, glabrous except for a longitudinal line of hairs posticously; wings 12 mm. long, entirely glabrous; limbs condu-

plicate, narrowly oblong, obtuse to rotundate, auriculate at the base; keel similar to the wings, but the limb slightly broader. Ovary hirsute in front, the hairs extending to about the middle of the style; style twice as long as the ovary, arcuate, glabrous above and terminated by an oblique subcapitate stigma. Harvey, l.c. 56 (in part). *Lipozygis involucrata*, E. Meyer, l.c. *Ononis involucrata*, Berg, Pl. Cap. 213.

South Africa. Coast Region. Malmesbury Div.: Grassy places, Groene Kloof, 100 m., *Bolus*! Stellenbosch Div.: Stellenbosch, *Sanderson*! At the foot of the Hottentots' Holland Mountains, *Bunbury*! Sir Lowry's Pass, *Schlechter*, *Herb. Zürich*, 23! Paarl Div.: Paarl Mountain, 300–600 m., *Drège*! *Klapmuts*, *Schlechter*, *Herb. Zürich*, 383! Tulbagh Div.: Stony slopes near Steendal Post, Tulbagh, 300 m., *MacOwan*, *Herb. Norm. Aust.-Afr.* 561! On the slopes of the Winterhoek Mountain, *Lamb ex Herb. Dümmer*, 1484! Swellendam Div.: On sandy parts of the Houw Hoek and Swellendam Mountains, *Bowie*!

Without locality. *Lehmann*! *Scholl*! *Thom*! *Forbes*! *Forbes*, 148! *Masson*! *Niven*, 143!

40. *L. TENUIFOLIA*, Dümmer, comb. nov.

Habit of the preceding species, but less robust and the indumentum much less conspicuous; stem often unbranched. *Leaflets*—15 mm. long, narrowly cuneate or oblanceolate, rotundate and often mucronulate, occasionally acutate; stipules subulate to lanceolate. Umbels pedunculate, 3–7-flowered, bracts much less conspicuous than in *L. involucrata*, Benth.; peduncles 30 mm. long; flowers often nodding, pedicels 2–3 mm. long. Calyx persistent, about 9 mm. long, sparingly appressedly pilosulate externally, cleft to the middle, segments narrowly deltoid, the lower narrower and slightly longer. Standard about 10 mm. high, limb rounded at the base, sparingly appressedly hirsute posticously above the middle; limbs of the wings not conduplicate, truncate at the base. *Legume* turgescens, oblong, 12 mm. long, ochreous, sparingly hirsute on the sutures and in front.

L. involucrata, Bentham, l.c. (in part); Harvey, l.c. (in part). *Polylobium tenuifolium*, and *P. angustifolium*? Ecklon and Zeyher, Enum. Pl. 182.

South Africa. Coast Region. Malmesbury Div.: Sandy places near Darling, *Schlechter*, *Herb. Zürich*, 5334! Vredenberg, *Bachmann*, *Herb. Zürich*, 2075! Cape Div.: Cape Town, *Alexander*, 38! *Forbes*! *Wilms*, 3148! Devil's Peak, *Burchell*, 8498! Vicinity of Cape Town, Newlands and Paradise, *Burchell*, 489! Simonsbay, *Wright*! Wynberg Hill, *Wolley Dod*, 28! Path beyond Miller's Point, *Wolley Dod*, 2879! Roadside near Noah's Ark Battery, *Wolley Dod*, 1253! Muizenberg, *Scott Elliot*, 1086! Table Mountain, 180–240 m., *Dümmer*, *Herb.* 154!

830! Stellenbosch Div.: Hottentot's Holland Mountains, *Ecklon* and *Zeyher*, 1295!

Without locality. *Burke*! *Harvey*, 775! *Forbes*! *Scholl*! *Sieber*, 164! *Masson*! *Menzies*! *Bergius*!

41. *L. PEDUNCULARIS*, Benth., l.c. 602; *Harvey*, l.c. Var. *Meyeri*, *Harvey*, l.c. *Lipozygis peduncularis*, E. Meyer, l.c. 79. *Polylobium pedunculare*, Benth., in Ann. Wien. Mus. ii. (1838), 142. *Ononis umbellata*, Linn. Mant. ii. 266.

South Africa. Coast Region. Malmesbury Div.: Laauwskloof near Groenekloof, below 300 m., *Drège b*! Paarl Div.: Near Paarl, below 300 m., *Drège a*! *Pappe*, 28!

Var. *SECUNDA*, *Harvey*, l.c. *Ononis secunda*, Thunb. Prod. 130.

Coast Region. Caledon Div.: Genadendal, *Alexander*, 40!

The variety is doubtfully distinct from the type.

42. *L. ANGUSTIFOLIA*, Steud., Nom. Bot. ii. 73; Benth., l.c. 603; *Harvey*, l.c. 57. *L. secunda*, Bth., l.c. excl. syn. *Telina angustifolia*, E. Meyer, loc. cit. 70. *Polylobium fastigiatum* and *P. Mundianum*, Eckl. and *Zeyher*, l.c. 183.

South Africa. Coast Region. Paarl Div.: Klapmuts, *Rehmann*, *Herb. Zürich*! Cape Div.: False Bay, *Alexander*, 43! On hills near Cape Town, *Zeyher*! Sandy flats, *Rehmann*, 2102! Retreat, 15 m., *Dümmer*, *Herb.** 1212! Table Mountain, 90 m., *MacOwan* and *Bolus*, 56! By Tokay Convict Prison, *Wolley Dod*, 2256! 723! Zeekoe Vley, *Ecklon* and *Zeyher*, 183. Koeberg, *Pappe*! Caledon Div.: On the Zwartberg, *Bowie*! Swellendam Div.: Swellendam, *Mund*.

Without locality. *Bowie*! *Harvey*, 801!

43. *L. NEWTONI*, Dümmer, species nova, distincta, facie *L. angustifoliae*, Steud., similis sed foliis hirtellioribus, capitulis brevissime pedunculatis ramulos laterales breves terminantibus, floribus sessilibus minoribus hirtellis, vexillo parvulo facillime distinguenda.

Planta annua, omnino hirtella, cauli simpliciter erecta 15 cm. alta foliosa citrinea. Folia trifoliolata, ascendunt; petioli supra sulcati, 5-7 mm. longi; foliola anguste lanceolata, acutata, terminalia 7-10 mm. longa, ceteris paulo longiora, subcoriacea, enervata, margine paullulo incrassata; stipulae binae, arrectae, foliis similes, nisi minores angustioresque, ad 6 mm. longae. Capitula depresso hemisphaerica, 5-10-flora,

* This collection, comprising approximately 2100 species, exclusively South African, is in the Herbarium of the Royal Botanical Gardens, Edinburgh.

ad 10–13 mm. diametro, foliolis ea saepe excedentibus; pedunculi laterales foliosi, ad 8 mm. longi; bracteae inverse late triangulares 2–2.5 mm. longae. *Flores* subsessiles, hirtelli, flavidi. *Calyx* 5–6 mm. longus, segmento inferiore acuminato fissis superioribus duplo longiore. *Vexillum* parvulum, cucullatum, calycem vix excedens, lamina fere reniformi perbreviter cuspidata postice hirtella, ungui scarioso profunde sulcato: alae 4–5 mm. longae, laminis unguibus subaequilongis vix 1 mm. latis frontem versus attenuatis basi obsolete auriculatis ad marginem inferiorem hirsutulis; carina alis vix duplo longior, lamina frontem versus ampliata, basi attenuata, extra omnino hirtella. *Ovarium* hirsutulum, stylo arcuato glabro tertio aut quadruplo eo longiore.

Tropical Africa. Angola. Mossamedes, Mouline, Newton, *Herb. Zürich* and *Kew*, 95!

A peculiarly distinct plant with the general facies of *L. angustifolia*, Steud., though easily recognised by the more hairy slender habit, shortly pedunculate depressedly hemispheric flower-heads, subsessile smaller hairy flowers, and inconspicuous vexillum, which scarcely extrudes from the calyx.

44. *L. TRICHOPODA*, Bentham, l.c. 603; Harvey, l.c. 57. *L. trifolioides*, Schlechter ex Zahlb. in Ann. Nat. Hofm. Wien, xx. (1905), 16. *Crotalaria trichopoda*, and var. *brachypoda*, E. Meyer, l.c. 154. *Polylobium intermedium* and *P. typicum*, Eckl. and Zeyh., l.c. 180, 181. *P. trichopodum*, Presl. Bot. Bemerk. 123. *Ononis glabra*, Thunb. Prod. 130.

South Africa. Coast Region. Uitenhage Div.: Between Coega and the Sunday Rivers, below 300 m., *Drège a!* Ecklon and Zeyher, 1289! Van Staden's River below 300 m., *Drège b!* Uitenhage, Zeyher, 401! Addo, Ecklon and Zeyher, 1288. Algoa Bay, Alexander, 39! Oudtshoorn Div.; At the Brook and near the Congo Caves, Oudtshoorn, 330 m., Bolus, 11768! Oudtshoorn, Miss L. Britten, 56! Albany Div.: Redhouse, Mrs. T. V. Paterson, 401! Port Elizabeth Div., New Brighton, Port Elizabeth, Mrs. E. Southey, 5869! (*Herb. Kew* f.).

This species varies somewhat in the degree of pubescence and the relative length of the peduncles, Schlechter's description of *L. trifolioides* does not in any way differ from certain specimens, which I consider forms of this species.

45. *L. MONOPHYLLA*, Harvey, Thesaurus, Cap. i. 39, t. 63; Harvey, l.c. 58.

South Africa. Coast Region. Uitenhage Div.: Stony places on the Vanstadensberg, Zeyher, *Herb. Kew*!

§ 5. LIPOZYGIS.

46. *L. PENTAPHYLLA*, Bentham, in Hook. Lond. Jour. Bot. II. 605. Harvey, l.c. 59. *Lipozygis pentaphylla*, E. Meyer, l.c. 79.

South Africa. Western Region. Little Namaqualand. Little Karakuis, *Drège* ! *Scully*, *Herb. Norm. Aust.-Afr.* 1126 ! *Scully*, *Herb. Brit. Mus.* 135 ! On hills, Eenkokerboom, 280 m., *Schlechter*, 11067 ! Without locality. *Masson* and *Niven*, *Herb. Brit. Mus.* 30 !

47. *L. ROSEA*, Dümmer, sp. nov., a *L. pentaphylla*, Benth., caulibus longioribus fere glabrescentibus laxè foliatis, foliolis longioribus anguste cuneatis, inflorescentiis paulo majoribus, floribus majoribus pallide roseis recedit.

Planta annua ? ; radix fusiformis, caulibus decumbentibus gracilibus paene simplicibus circiter 20 cm. longis teretiusculis laevibus hirtellis aut mox glabrescentibus pallide ochraceis. *Folia* rosulata vel ad caules laterales parce disposita, quinquefoliolata, rarissime trifoliolata ; petioli filiformes, 10–40 mm. longi, parce hirtelli ; foliola anguste cuneata oblanceolatave, apice rotundata aut paene truncata, inaequalia, terminalia 8–20 mm. longa, lateralia 5–18 mm. longa, utrinque sparse adpresse pilosula, subtus costa prominula ; stipula foliacea, lanceolata, ad 10 mm. alta. *Capitula* oppositifolia, sessilia, foliis breviora, fere globosa, densa, circiter 20 mm. diametro ; flores brevissime pedicellati, pallide rosei, bracteola lineari-lanceolata, subulata, calycem fere aequante. *Calyx* profunde fissus, 12 mm. longus, extra valde hirtellus, laciniis superioribus subulatis 8 mm. longis, inferiore paullulo brevior. *Corolla* parce sericea. Vexillum ad 10 mm. altum, limbo anguste ovato aut cordato rotundato basin versus in unguem brevem attenuato ; alae anguste oblongae, in toto 10–12 mm. longae, obtusae, basi auriculatae ; unguis 2–3 mm. longi ; carina paulo curvata, 7 mm. longa, medio 1–1.5 mm. lata, obtusiuscula, basi auriculata aut subsagittata, unguibus gracilibus limbo brevioribus. *Ovarium* dimidio ellipticum, 4–5 mm. longum, valde utrinque hirsutulum ; stylus filiformis, ovario duplo longior, inferne rectus, parce hirsutulus, superne mox curvatus, glaber, stigmate subcapitato. *Legumen* haud visum.

South Africa. Coast Region. Clanwilliam Div. ; Clanwilliam, *Mader*, 207 !

48. *L. POLYCEPHALA*, Bentham, l.c. 605 ; Harvey, l.c. 59. *Lipozygis polycephala*, E. Meyer, l.c. *Polylobium polycephalum*, D. Dietr., Syn. Pl. IV. 962.

South Africa. Western Region. Little Namaqualand, between Pedros Kloof and Lily Fontein, 900–1200 m., *Drège*, *Herb. Kew* !

49. *L. ANTHYLLOIDES*, Harvey, loc. cit. 59.

South Africa. Western Region. Namaqualand, *Wyley, Herb. Kew* !

50. *L. BOLUSII*, Dümmer, sp. nov. *L. anthyllioidi*, Harvey, valde affinis sed foliis longe pedunculatis, stipulis lanceolatis aut anguste cuneatis, foliolis longioribus herbaceis haud coriaceis, capitulis terminalibus (rarius lateralibus) distinguenda.

Herba annua ? viscidula, juventute paene undique patentim valde hirsuta; radix anguste fusiformis, vix fibrosa; caules laterales, decumbentes, graciles, 15 cm. vix excurrentes, teretes, laeves, inferne paene glabrescentes, parce laxaeque foliati, brunnei. *Folia* conferte-rosulata vel ad caules laterales alternatim disposita et minora, quinquefoliolata vel interdum trifoliolata; petioli ascendentes, filiformes, 7–70 mm. longi, juniores valde patentim albo?—hirsuti; foliola anguste cuneata, rotundata vel fere truncata, mucronata aut brevissime cuspidata, terminalia 10–30 mm. longa, 4–9 mm. lata, infima saepe 5–15 mm. longa, supra fere glabra, subtus parce pilosa, costa basi prominente, apicem versus evanida, nervis lateralibus obsoletis, herbacea, viridescens, laxae ciliata; stipula lanceolata vel anguste cuneata, mucronata, ad 12 mm. longa, ciliata. *Capitula* terminalia, rarissime lateralia, solitaria, breviter pedunculata, globosa aut ovoideo-globosa, ad 20 mm. diametro; flores paene sessiles, albi, bracteolis foliatis lanceolatis subulatis valde hirsutis flores maturos haud excedentibus. *Calyx* 8 mm. longus, extra hirsutus, profunde fissus, laciniis subaequalibus subulatis. *Vexillum* circiter 10 mm. altum, limbo vix reflexo obovato vel elliptico acutato basi paullulo auriculato fere glabro ungui gracili longiore; alae angustissime oblongae, fere rectae, in toto 8–9 mm. longae, glaberrimae, unguibus gracillimis; carina alis similis, tamen latior et obtusior, curvata, basi graciliter auriculata. *Ovarium* oblique ovatum, 3 mm. longum, fronte valde hirsutum; stylus filiformis, fere duplo longior, glaber, inferne subito deflexus, deinde rectus, summo apice paene geniculatus.

South Africa. Coast Region. Piquetberg Div.: In sandy places near Piquetberg, 105 m., *Bolus*, 8431 !

Var. *MINOR*, var. nova, a typo capitulis minoribus recedit.

Coast Region. Malmesbury Div.: In the vicinity of Hopefield, *Bachmann, Herb. Zürich* and *Kew*, 2228 !

This variety differs from the type in the relatively smaller flower-heads, which are 1–1.3 cm. in diameter.

Var. *SESSILIS*, var. nova, typo similis nisi capitulis sessilibus.

Coast Region. Tulbagh Div.: Between Tulbagh Kloof and Piqueniers Kloof, 120 m., *Herb. Bolus* and *Kew*, 8969 !

The sessility of the globose flower-heads, which are 1·5–1·7 cm. in diameter, distinguish this variety from the species.

51. *L. WILMSII*, Dümmer, sp. nov. distincta *L. erianthae*, Benth., affinis sed habitu humiliore, foliis aequilongis brevissimis angustissimisque, stipulis geminis, floribus minoribus facillime distinguenda.

Suffruticulus tunc 9 cm. vix excedens, ramossissimus, specie viscidus, ramulis ascendentibus magis minusve simplicibus teretibus strigillosis brunneis dense foliatis. *Folia* subimbricata, trifoliolata; petioli persistentes, teretes, usque ad 5 mm. longi; foliola recta, rarissime subfalcata, aequilongia, linearia aut lineari-lanceolata, acuta, petiolis aequilonga, subtus parcellissime strigillosa, supra demum glabra, incrassata, enervata; stipulae binae, foliaceae, oblique lineares vel lineari-lanceolatae, foliola aequates vel interdum superantes. *Inflorescentia* sessilis, terminalis, hemisphaerica, 4–8-flora vel interdum uniflora; flores per breviter pedicellati, flavidi, bracteola minutissima. *Calyx* 6–7 mm. longus, extra pilosulus, nervatus, laciniis inter se aequilongis tubum aequantibus, superioribus anguste triangularibus, inferiore angustiore. *Vexillum* 8 mm. altum limbo ovato cuspidato, cuspi cucullato incurvoque, basi subhastato vel fere auriculato extus ad costam et apicem versus sericeo aut omnino postice-sericeo; unguis anguste oblongus, 2 mm. longus, glaber; alae 5 mm. longae, fronte obtusiusculae, basi valde auriculatae, ad margines parcellissime sericeae, ungui angusto glabro limbo brevior; carina dimidio obovata, fronte fere rotundata, sagittata, 6·5–7 mm. longa, extra valde brunneo-sericea; unguis glabri. *Ovarium* anguste dimidio ellipticum, 3·5 mm. longum, frontem versus hirsutulum; stylus ovario duplo longior, proso arcuatus, basin versus hirsutulus, stigmatibus oblique subcapitato.

South Africa. Kalahari Region. Transvaal Div.: Between Middleberg and the Crocodile River, *Wilms, Herb. Kew*, 277!

52. *L. SUTHERLANDII*, Dümmer, sp. nov. distincta *L. erianthae*, Dümmer, maxime affinis sed habitu magis ramoso, foliis obovato-cuneatis crassioribus utrinque pubescentibus, calycis dentibus brevioribus, distinguenda.

Suffruticosus, laxè magis minusve distiche ramosus, inferne nudus, ramis florentibus ascendentibus circiter 7–10 cm. longis puberulis foliatis. *Folia* trifoliolata, internodiis longiora, ubique pubescentia; petioli graciles, 3–5 mm. longi; foliola obovato-cuneata, rotundata, mucronata aut brevissime cuspidata, lateralia 5–10 mm. longa, 2·5–4 mm. lata, terminalia ceteris paulo majora vel rarius duplo longiora, dorso costa prominula, nervis lateralibus obsoletis, supra canaliculata, subcoriacea, viridescens; stipula unica, falcato-lanceolata, acuta, 4 mm. rarius excedens. *Flores* terminales vel raro axillares, solitarii sed saepissime in umbellas sessiles

ramulos laterales breves terminantes, sicco ochracei; pedicelli 1-3 mm. longi, bracteola subulata, triente longiores. *Calyx* extra parce adpresse pubescens, 4 mm. longus, lobis anguste deltoideis tubo duplo brevioribus, inferiore ceteris paullulo longiore. *Vexillum* 8-10 mm. altum, lamina reflexa elliptica utrinque subangustata obtusa quam ungui duplo longiore postice undique parce sericea intra ut ungui glabra; alarum limbi fere oblongi, rotundati, basi perspicue obtuse sagittati, cum unguibus 8-9 mm. longi, extra sericuli; carinae limbus late navicularis, 6-7 mm. longus, ad frontem rotundatus, obtuse auriculatus, extra ubique sericulus; ungues graciles, limbo paulo breviores, glabri. *Ovarium* lineare, suturo dorso apicem versus hirsutulium; stylus curvatus, superne glaberrimus, stigmatibus subcapitato.

South Africa. Eastern Region. Natal. Without precise locality, *Sutherland*, *Herb. Kew*!

53. *L. ERIANTHA*, Bentham, l.c. 605; Harvey, l.c. 59.

South Africa. Kalahari Region. Basutoland, *Cooper*, 2269! Transvaal: Magaliesberg, *Zeyher*, 363! 412! Houtbosch, *Rehmann*, 6267! On the mountains about Houtbosch, 1310 m., *Bolus*, 10948! Near Lydenburg, *Wilms*, 279! Pretoria, *Wilms*, 279a (partly)! 278! Near Robinsons, *Burtt Davy*, 2992! Plakfontein at the Beacon, 1800 m., *Burtt Davy*, 2975!

Eastern Region. Natal: Near Van Reenen's Pass, 1800 m., *Wood*, 4525! Oliver's Hoek Pass, *Wood*, 1300 m., 3602! Pietermaritzburg, 900 m., *Sutherland*! *Wilms*, 1925! Drakensberg, 1500-1800 m., *Wood*, 6631! Grassy hill near Newcastle, 1200 m., *Wood*, 5866!

Var. *OBVATA*, Scott Elliot in Jour. of Bot. (1891), 69.

South Africa. Eastern Region. Tembuland, Umtata, Bazeia, 750 m., *Baur*, 560! 623! Natal: Near Maritzburg, *Wood*, 3163! Imquela Mountain, *Scott Elliot*, 1637! Griqualand East Div.: Mount Currie, 1650 m., *Tyson*, 1415!

54. *L. PULCHRA*, Dümmer, sp. nov. variabilis, *L. erianthae*, Benth., affinis, sed foliolis supra fere glabris, corollis glaberrimis recedit.

Herba perennis, e basi lignoso ramosa, caulibus erectis vel ascendentibus perpaucis aut confertis ad 28 cm. altis plerumque simplicibus angulatis mox teretibus hirtellis ochraceis saepe valde foliatis. *Folia* patentia vel subimbricata, trifoliolata; petioli usque ad 5 mm. longi; foliola subfalcato-lanceolata, elliptica aut obovato-oblonga, rotundata vel acutata, ad 18 mm. longa, 3-6 mm. lata, terminalia lateralibus paulo longiora, supra fere glabra, subtus parce hirtella, laete viridescencia, longe ciliata, subcoriacea; stipula unica, arrecta, foliolis similis iis saepissime breviora, rarius aequilonga, extus hirtella. *Flores* terminales, corymbosim congesti,

(rarius ramulos laterales brevissimos terminantes), citrinei, roseo-suffusi; corymbae hemisphaericae, pluriflorae, (raro pauciflorae), ad 3·5 cm. diametro, laterales terminalibus minores floribus paucioribus; pedicelli ad 10 mm. longi, pilosuli, bracteola lineari duplo aut tertio breviora medio instructi. *Calyx* 7–8 mm. longus, extra hirtellus, dentibus superioribus anguste deltoideis, lacinia inferiore subulata dentibus duplo longiore. *Corolla* glaberrima; vexillum unguiculatum, 10–12 mm. longum, limbo late ovato acutato aut obtuso vel breviter cuspidato, basi rotundato vel subhastato unguem linearem scariosum sulcatum aequante; alae falcatae, oblongae, apicem versus angustatae, rotundatae, basi longe sagittatae, 6–10 mm. longae, limbo ungui gracili breviora aut superante; carina alis similis, late navicularis, medio vix 3 mm. lata, obtusiuscula, basi auriculata, unguibus gracilibus 3–4 mm. longis. *Ovarium* frontem versus hirsutulum, stylo prorso curvato brevius, stigmatum simplicem.

South Africa. Kalahari Region. Transvaal: At the town, Lydenburg, *Wilms*, 280! 279a partly! *Atherstone*!

Eastern Region. Griqualand East: On the slopes of Mount Malowe, 1200 m., *Tyson*, 2721! *Herb. Aust.-Afr.*, 1253! Between Ibisi River and Clydesdale, *Tyson*, 1414. Natal: *Mrs. K. Saunders*! Inanda, *Wood*, 454! In grassy places, Botha's Hill, *Tyson*, 3109! Stony and grassy slopes near Friendenau Farm, 600 m., *Rudatis*, 259! Rocky hill, Liddesdale, *Wood*, 4253.

In common with its ally, *L. corymbosa*, Benth., this species exhibits considerable variation in its habit, indumentum, and size of flowers, but intermediate forms suggest the advisability of regarding the specimens quoted as forms of one variable species, which may be distinguished from either of its congeners by the entire glabridity of its corollas.

55. *L. CORYMBOSA*, Benth., l.c. 606; Harvey, l.c. 60. *Wood*, Nat. Plants, VII. 12, t. 235. *Lipozygis corymbosa*, E. Meyer, l.c. *Polylobium corymbosum*, Benth., in Ann. Wien Mus. ii. (1838), 142.

South Africa. Eastern Region. Tembuland Div.: Umtata River, below 300 m., *Drège*! Near Cala, *Bolus*, 8844! Natal: *Gerrard*, 1063! Port Natal, *Krauss*, 436! *Sutherland*! Inanda, *Wood*! Lidgetton, 1200 m., *Wood*, 9753! *Wood*, 182! *Mrs. K. Saunders*! *Rehmann*, 8419! 7835! Krantz Kloof, 500 m., *Schlechter*, 3184! Sevenfontein Hill, *Wylie* ex *Herb. Wood*, 5218! Between Greytown and Newcastle, *Wilms*, 1926!

Kalahari Region. Transvaal: Eastern slopes of the Saddleback Mountain, 1350–1500 m. Barberton, *Galpin*, 1164! *Bolus*, 7710! Swazieland: Havelock Concession, 1200 m., *Galpin*, 1012! *Miss M. M. Stewart*!

A highly variable species, difficult of limitation, of which extreme forms appear to merge into *L. eriantha*, Benth., on the one hand, and *L. pulchra*, Dümmer, on the other. According to Medley-Wood (l.c.), *L. corymbosa*, Bth., is known to the natives as *um-Hloboluku* or *um-Hlambaluku*, the roots being used as a tonic by them. The differences of *L. eriantha* and *L. corymbosa* as given in the key are based on extreme forms.

56. *L. LANCEOLATA*, Bentham, l.c. 606; Harvey, l.c. 60. *Aspalathus lanceolata*, E. Meyer, l.c. 37.

South Africa. Central Region. Aliwal North Div.: Between Kraai River and the Wittebergen, 350–1500 m., *Drège!* Kalahari Region. Transvaal: Klip River Berg Range near Johannesburg, *Rand, Brit. Mus.*, 1111! Eastern Region. Zululand, *Gerrard*, 1065!

57. *L. FOLIOSA*, Bolus, in Jour. Linn. Soc. (Bot.) XXIV. (1887), 173.

South Africa. Kalahari Region. Orange River Colony: *Cooper*, 862! Harrismith, *Sankey*, 46! Bronkerspruit, *Rehmann*, 6565! 6609! 6590! Transvaal, Near Pretoria, 1260 m., *McLea, Herb. Bolus*, 5620! *Nelson*, 268! Johannesburg, *Rogers*, 2548! *Scott Elliot*, 1348! Ommanney, *Rand*, 953! Greylingstad, *Vandeleur!* Pilgrim's Rest, *Greenstock!* Near Johannesburg, *Miss R. Leendertz*, 1705! Swazieland: *em-Babaan*, 1380 m., *Burt-Davey*, 2864! Near Bruig Spruit, *Schlechter, Herb. Zürich*, 3755!

Eastern Region. Natal: Near Klip River, 1150–1500 m. *Sutherland!* Between Pietermaritzberg and Greytown, *Wilms*, 1928! Oliver's Hoek Pass, *Wood*, 3542! Near Mooi River, 1500 m., *Wood*, 768! Zululand: *Gerrard*, 1068!

Cooper's specimens (No. 862) have perfectly glabrous corollas, while those of *Wood* (No. 768) are sericeous.

58. *L. GRANDIS*, Dümmer et Jennings, sp. nov. *L. foliosae*, Bolus, affinis, sed habitu robustiore, foliis longius petiolatis majoribus exstipulatis, capitulis fere nudis et floribus majoribus facillime distinguitur.

Herba undique nisi corolla laxa et longe albo-villosa. *Caules* florentes (annui e radice perenni?) erecti, stricti, simplices, ad 0·5 m. alti, 4-goni, irregulariter sulcati, dense foliosi. *Folia* trifoliolata (exstipulata?), petioli ad 1 cm. longi, supra sulcati; foliola elliptico-oblonga vel lanceolata, utrinque angustata aut apiculata, terminalia ad 5 cm. longa, 8–11 mm. lata, lateralial paulo breviora, medio costata, sicco subnigra, chartacea, longe laxaque ciliata. *Capitulum* terminale, solitarium, hemisphaericum, subnudum, compacte 25–30-florum, circiter 4 cm. diametro. *Flores* pedicellati, flavidi (fide *Wylie*); pedicelli filiformes, 0·4–1 cm. longi; bracteola lineari-

subulata, ad 4 mm. longa. *Calyx* 7 mm. longus, 10–12 nervatus, extra parce pilosus, supra medio fissus, lobis subulatis inter se subaequalibus. *Vexillum* unguiculatum, spatulatum, in toto 10–12 mm. longum, lamina 8 mm. longa, 2·5 mm. lata, acuta, basi leviter truncata, dorso parce sericea, mox glaberrima; alae vix curvatae, in toto 10 mm. longae, limbo 3 mm. lato obtuso sagittato extra parcissime pubescente; carina alis similis sed paulo longior et angustior. *Ovarium* complanatum, falcato-oblongum, 7 mm. longum, stylum valde curvatum aequans, glaberrimum, fuscum.

South Africa. Natal. At the Umzinyati River, 60–120 m. *Wylie*, *Herb. Wood and Kew* 11525!

A highly decorative and distinct species easily recognised by the characters cited; like its congener *L. foliosa*, Bol., it shows the peculiarity of turning black on drying, a peculiarity manifested by only one more of this section, viz., *L. lanceolata*, Benth.

§ 6. LEOBORDEA.

59. *L. CARINALIS*, Harvey, in Harv. and Sonder, Fl. Cap. II. 60.

South Africa. Western Region. Little Namaqualand, *Wylie*, *Herb. Harvey, Dublin*.

60. *L. STEINGROEVERIANA*, Dümmer, comb. nov. *L. clandestina*, Bth., var. *Steingroeveriana*, Schinz, in Abh. Bot. Ver. Brandenburg, XXX. (1888), 157.

South Africa. Kalahari Region. Lower Orange River, *Steingroever*, *Herb. Schinz and Kew*, 109!

Differs from the following species in the more caespitose habit, larger flowers and calyces, which latter are subinflated and prominently nerved at maturity.

61. *L. CLANDESTINA*, Bentham, l.c. 607; Harvey, l.c. 61. *Capnitis clandestina*, E. Meyer, l.c. 81. *Leobordea clandestina*, Steud., Nom. ed. II. ii. 23.

Western Region. Little Namaqualand. Between Holgat River and the Orange River, 300–450 m., *Drège*!

62. *L. LEOBORDEA*, Bentham, l.c. 607; Harvey, l.c. 61. *L. porrecta*, Bentham, l.c., Harvey, l.c. 60. *L. abyssinica*, Kotschy in Sitzb. Acad. Math.-Nat. li. ii. (1865), 263. *L. dichotoma*, Boissier, Fl. Orient. ii. 30. *L. Leobordea*, Delile in Laborde Voy. Arab. Pétr. 86 (1833). *L. platycarpus*, Viv. Pl. Aegypt. Dec. IV. 14. *L. persica* and *L. sphaerocarpa*, Boiss. Fl. Orient. ii. 30. *Leobordea persica*, Jaub and Spach in Ann. Sci. Nat. Ser. II. XIX. (1843), 235. *L. sphaerosperma*, Jaub and Spach, l.c. 235.

L. abyssinica, Hochst. ex A. Rich. Tent. Fl. Abyss. i. 161. *L. lotoidea*, Délile in Laborde Voy. Arab. Pétr. 86. *L. porrecta*, Steud. Nom. ed. II. ii. 23. *Capnitis porrecta*, E. Meyer, l.c. 81. *Leptis prolifera* and *L. debilis*, Ecklon and Zeyher, l.c. 175.

Africa. South Africa. Coast Region. Uitenhage Div.: Zwartkops River, *Ecklon* and *Zeyher*, 1264. Albany Div.: Between Grahamstown and Bothasberg, *Ecklon* and *Zeyher*, 1265. Central Region. Springbokkeel and Bitterfontein, *Zeyher*, 409! Prince Albert Div.: Zwartbulletje, 900 m., *Drège*! Rhodesia, Bulawayo, *Rand*, *Herb. Brit. Mus.* 309! Great Namaqualand, Gubub, *Dinter*, *Herb. Zürich*, 1147! Wilhelmstal, 1400 m., *Dinter*, 346! Inachab, *Dinter*, 1160! Rehoboth, *Fleck*, *Herb. Zürich*, 462?

British Central Africa. Ruwenzori, *Scott Elliot*, 6820! **ABYSSINIA.** *Schimper*! Ungäa, *Schimper*, 492! On dry hills near Arna, *Schimper*, 1493! Mountains near Pagero, 1050 m., *Schimper*, 2293! **NUBIA.** Sea-coast, 900–1200 m., *Bent*! **EGYPT.** Cairo, *Schubert*! *Sickenberg*! *Schweinfurth*! Kordofan, *Pfund*, 396! Desert between Kenah and Kossar, *Schweinfurth*, 764! **ALGERIA.** Biskra, *Balansa*, 932!

Asia. Arabia. Petraea, *MacDonald*! *Ehrenberg*! Jeddah, *Nohrab*, 197! 116! 127! Desert near Dschedda, *Schimper*, 768! *Fischer*, 64! Red Sea between 10° and 12° N. lat. *Lord*! Wadi Musa, *Boissier*! *Aucher-Eloy*, 1041! At the foot of Mt. Sinai, *Schimper*, 414! Wadi Barak, *Hart*! Wadi Gemah, *Lord*! Wadi Farran, *Lord*! Wadi Sewook, *Lord*! Southern Syria, Wadi Zewerah, *Lowne*! Asia Minor, Gediz, *Fischer*, 64. Persia (according to Boissier), **BALUCHISTAN.** *Stocks*, 698! Between plains of Scinda and Rohill Pass, 150 m., *Stocks*, 698! **NORTH-WEST INDIA.** Punjaub, near Peshawar, *Stewart*, 422 P!

Turkey in Europe, Central and Northern Midia, *Burton*!

A peculiarly variable and perplexing plant, and perhaps here somewhat misinterpreted, but I have failed to recognise differences sufficiently stable to warrant the resuscitation of any other names. Certain specimens approach *L. clandestina* in having short, stiff and spreading pubescence, but the majority have a more sericeous indumentum; Bové's specimens from the Desert of Sinai labelled *Leobordea lotoidea*, Délile (No. 129) represent a species of *Astragalus*.

§ 7 LEPTIS.

63. *L. QUINATA*, Bentham, l.c. 608 (not Harvey). *L. quinata*, var. *minor*, Harvey, l.c. 63. *Lipozygis quinata*, E. Meyer, l.c. 77. *Polylobium quinatum*, Presl. Bot. Bemerk. 123.

South Africa. Western Region. Little Namaqualand: Modderfontein

Berg, 1200–1500 m., *Drège* ! Near Ookiep, 900 m., *Bolus*, *Herb. Norm. Aust.-Afr.* 1129 ! *Bolus*, 9490 !

64. *L. DELICATULA*, Bolus, in *Pl. Nov. Then. I.* (1906), 187, t. 41.

South Africa. Western Region. Little Namaqualand: On hills, Brackdam, 540 m., *Schlechter*, 11106 ! On hills, Waterklipp, 690 m., *Schlechter*, 11167 !

Differing from the preceding species in the more diffuse, less woody habit, longer more glabrous leaflets, and slightly longer flowers and legumes.

65. *L. LUPINIFOLIA*, Bentham, l.c. 607. *Leobordea lupinifolia*, Boissier ex Jaub and Spach in *Ann. Sci. Nat. Ser. II. XIX.* (1843), 237. Boiss. *Voy. Esp.* t. 52. *Cytisus pentaphylla*, Salzmann ex Walp. *Repert. I.* 623. *Leobardia villosa* and var. *intermedia*, Pomel. *Fl. Atl. I.* 163 (1874).

North Africa. Algeria: Djebel Santo, Oran, *Bourgeau*, 126 ! Oran, *Cosson* ! *Balansa*, 377 ! At the foot of Santa Cruz, Oran, *Munby* ! *Boissier* and *Reuter* ! Lalla Marina, *Warming* ! Ghar Rubban, *Munby* ! Djébel Santo, *Durando* ! and *Debeaux*, *Herb. Zürich* !

Europe. Mediterranean Region. S. Spain: Malaga, *Boissier*, 61 ! 865 ! *Salzman* ! Dry hills, *Joad* ! Near Malaga and Casarobonela, *Huter*, 681 ! Andalusia, Ronda, *Reverchon*, *Herb. Zurich*, 191 !

66. *L. LONGIFLORA*, Bolus, in *Journ. Linn. Soc. XXV.* (1889), 159.

South Africa. Western Region. Little Namaqualand: *Dowdle* ex *Herb. Bolus*, 6568 ! (*Herb. Kew* !); *Scully* ex *Herb. Norm. Aust.-Afr.* 1128 ! On hills near Goechas, 900 m., *Schlechter*, 11377 ! *Scully*, *Herb. Brit. Mus.* and *Edinburgh*, 236 !

A singularly distinct species with the habit of *L. quinata*, Benth., but with large flowers sometimes exceeding 2.5 cm. in length, the standard and wings being relatively short.

67. *L. BURCHELLII*, Bentham l.c. 612; Harvey, l.c. 61.

South Africa. Kalahari Region. Bechuanaland: Between sources of the Kuruman River and Kosi Fontein, *Burchell*, 2539 ! Between Takun and the ruins of Latakun, *Burchell*, 2271 !

68. *L. CRUMANINA*, Burchell ex Bentham, l.c. 612; Harvey, l.c. 62.

South Africa. Kalahari Region. Orange River Colony. Caledon River, *Burke* and *Zeyher*, 405 ! *Burke* ! Basutoland, near sources of the Kuruman River at Little Klibbikhonni, *Burchell*, 2445 ! 2472 !

These specimens, and all those quoted for the preceding species, are in the Kew Herbarium.

69. *L. MACULATA*, Dümmer, sp. nov. *L. crumaninae*, Burchell, affinis sed habitu minus diffusa, foliolis acutioribus, floribus semper solitariis paullulo majoribus dignoscitur.

Suffruticosus parvulus, adpresse prostratus, argenteo-fulvido-sericeus, ramis lateralibus arcuatis ad 7 cm. longis foliatis. *Folia* trifoliolata; petioli ad 2 cm. longi, teretes; foliola anguste elliptica vel oblanceolata, acuta, 7 mm. longa, 2.5 mm. lata, inter se fere aequilonga, dorso costata, subcoriacea; stipulae unicae aut binae? minutae, mox deciduae. *Flores* solitarii, axillares aut oppositifolii, subsessiles; bractea subulata, calycis tubum aequans. *Calyx* fere quinquefidus, 7 mm. longus, extra dense hirsuto-sericeus, fissis subulatis. *Vexillum* breviter unguiculatum, 5 mm. altum, lamina late triangulari, postice medio pilifera; alae unguiculatae, 5-6 mm. longae, glabrae, limbis anguste oblongis apicem versus attenuatis; carina calyce brevior, glabra, acutata, basi auriculata; unguis 1.5-2 mm. longi. *Stylus* gracilis, glaber, ovario duplo longior. *Legumen* oblique ovato-orbiculare, compressum, calycem haud excedens, sericulum, 6-8-spermum, seminibus ochraceo-maculatis, funiculis filiformibus albidis.

South Africa. Kalahari Region. Griqualand: Griqua Town, Burchell, *Herb. Kew*, 1957!

A species exhibiting affinities to *L. crumanina*, Burchell, but differentiated by the smaller, less diffuse habit, more acute leaflets, and invariably solitary, slightly larger flowers. Superficially it resembles the only specimen of *L. mollis*, Benth., which the writer has seen, but the acute carina, which never exceeds the calyx in length, and the included legume, serves to distinguish it immediately from that species.

70. *L. LAXA*, Ecklon and Zeyher, Enum. Pl. 177.; Harvey, l.c. 63. *L. diversifolia*, Bentham, l.c. 611. *Crotalaria diversifolia*, and var. *unifoliata*, E. Meyer, l.c. ii. 27.

South Africa. Coast Region. Albany Div.: Stony and grassy places, Grahamstown, 600 m. *MacOwan*, 911! Queenstown Div.: Near Shiloh, 1000 m., *Drège c*! Queenstown, *Cooper*, 1787! On the Klipplaat River, 1050 m., *Drège b*! Hanglip Mountain, 1500 m., *Galpin*, 1781! British Kaffraria: *Cooper*, 166! 327! *Mrs. Bowker*! Central Region. Graaff Reinets Div.: On the Sneeuwbergen, near Graaff Reinets, 1350 m. *Bolus*, 609! Colesberg Div.: Colesberg, *Shaw*! Albert Div.: *Cooper*, 1397! Kalahari Region. Orange River Colony: Thaba Unchu and Caledon River, *Burke*! *Zeyher*, 393! 401! 402! *Cooper*, 2184! Transvaal Div.: Pretoria hills, *Miss R. Leendertz*, 259! Between Standerton and Pretoria, *Wilms*, 270! Eastern Region. Transkei Div.: Bashee River, *Drège a*! Natal Div.: Banks of the Tugela River, near Hoffenthal, *Wood*, 3540! Grassy hills, near Colenso, 900 m., *Wood*! *Schlechter*, *Herb. Zürich*, 6880!

Var. MULTIFLORA, mihi, var. nova, a typo nisi floribus subumbellatim 2-5-dispositis vix differt.

South Africa. Kalahari Region. Transvaal: Plains near Barberton, 870 m., *Galpin*, 1078a! and 1078b! Hills near Standerton, *Schlechter*, *Herb. Zürich*, 3458! Irene, near Pretoria, *Conrath*, 135! Orange River Colony, *Cooper*, 2184! Eastern Region. Natal: Among grass, near Colenso, *Wood*! Umtata, 1020 m., *Schlechter*, *Herb. Zürich*, 6325!

71. *L. WOODII*, Bolus, in Journ. Bot. (1896), 18. *L. montana* and *L. Schlechteri*, Schinz, in Bull. Herb. Boiss. VII. (1899), pp. 30, 32.

South Africa. Coast Region. Alexander Div.: Zuurebergen, 1440 m., *Schlechter*, *Herb. Zürich*, 6589! Albany Div.: In grassy and stony places near Grahamstown, 600 m., *MacOwan*, 911! Queenstown Div.: Hanglip Mountain, 1500 m., *Galpin*, 1781! Kalahari Region. Harri-smith, 1500 m., *Wood*, 4788! Eastern Region. Natal: Amahwagwa, 1800-2100 m., *Wood*, 4603 *Gerrard*, 1731! Faku Territory, *Sutherland*! Central Region. Transvaal: Standerton, *Rehmann*, *Herb. Zürich*, 6794!

This plant exhibits the closest affinity to the preceding species, and may hereafter prove to be a geographical form of the Ecklon and Zeyher plant. It differs materially in the longer, broader, and more acute leaflets. Schinz's *L. Schlechteri* (*Schlechter* No. 6589) can only be regarded as a very southern form of this species.

72. *L. HUMILIOR*, Dümmer, sp. nov. *L. macrosepalae*, Conrath, per-similis habitu humiliore, foliis stipulis floribusque minoribus differt.

Herba perennis, undique nisi corolla argyreo-tomentosa, e basi lignescente ramosa, caulibus ascendentibus saepissime simplicibus sinuatis per-paucis ad 5 cm. longis. *Folia* trifoliolata aut interdum unifoliolata; petioli teretiusculi, 3-6 mm. longi; foliola inaequalia, obovata, oblanceolata vel elliptica, apice rotundata aut utrinque attenuata, raro mucronulata, 5-15 mm. longa, 3-5 mm. lata, lateralia breviora, subtus costa valde prominula, nervis lateralibus fere obsoletis, supra costa impressiuscula, coriacea; stipula lanceolata, acuta, 2-5 mm. longa. *Flores* solitarii, folio oppositi, ochracei; pedicelli brevissimi. *Calyx* profunde fissus, 8-9 mm. longus, extra valde sericeus, laciniis inter se subaequalibus acuminatis. *Vexillum* cum ungui 9 mm. altum, lamina late obovata aut late triangularis, utrinque glaberrima nisi postice medio longitudinaliter linea pilorum obtecta; alae graciliter unguiculatae, 6 mm. longae, 3 mm. latae, utrinque rotundatae, glaberrimae; carina alis paulo excedens, limbo oblique naviculari, basi fere truncato glabro. *Stylus* glaber, arcuatus, stigmatibus oblique subcapitato. *Legumen* rectum, compressiusculum, frontem versus paulo angustatum, 15 mm. longum, 4 mm. latum, valde sericeum, 12-spermum.

South Africa. Kalahari Region. Transvaal: At the town, Lydenburg,

Wilms, 274! Eastern Region. Natal Div.: Without precise locality, *Gerrard*, 1065!

L. macrosepala in miniature; *Wilms*'s specimens are identified as *Crotalaria* sp., but the absence of the rostrum and the compressed pods are opposed to this identification.

73. *L. MACROSEPALA*, Conrath, in *Kew Bull.* (1908), 223.

South Africa. Kalahari Region. Transvaal: Stony places, Modderfontein, *Conrath*, *Herb. Kew*, 133!

Very similar in habit to the preceding but with the leaves always trifoliate and twice or three times as large, the flowers and legumes correspondingly as large.

74. *LOTONONIS DESERTORUM*, Dümmer, sp. nov. *L. Dinteri*, Schinz, affinis sed patentim hirsuta, foliis brevioribus obovato-cuneatis, floribus minoribus, corolla calyce inclusa.

Herba perennis aut *annua*? diffuse-prostrata, ubique patentim stramineo-hirsuta, caulibus gracilibus subangulatis stramineis ad 10 cm. longis conferte foliatis. *Folia* trifoliolata; petioli complanati, ad 5 mm. longi; foliola terminalia elliptica vel obovato-cuneata, subacuta, ad 1 cm. longa, 0.5 cm. lata, lateralia paulo minora et oblique elliptica aut obovato-cuneata, subcoriacea, subtus basin versus costa prominente; stipula solitaria, subulata vel lanceolata, acuta, 2.5–3 mm. vix excedens. *Flores* subsessiles, oppositifolii, solitarii vel bini, lutei (teste *Dinter*). *Calyx* extra patentim hirsutus, 7 mm. longus, profunde fissus, membranaceus, fissis binis supremis acuminatis caeteris majoribus. *Corolla* glabra; vexillum 4–5 mm. altum, breviter unguiculatum, lamina oblongiuscula, 1.5–2 mm. lata, paulo cucullata venis parallelis ornata; alae graciliter unguiculatae, 4–4.5 mm. longae, laminis oblanceolatis 0.5 latis in ungues aequilongos attenuatis; carina alis similis sed curvatur. *Ovarium* valde hirsutum, stylo brevissimo arcuato glabro, stigmate subcapitato.

German South-West Africa. Gr. Barmen, 1200 m., *Dinter*, *Herb. Zürich* and *Kew*, 518!

A species more with the facies of one of the *Leobordea* group, but the large abaxial calyx-tooth suggests its approximation to this section; it exhibits an affinity to *L. Dinteri*, Schinz, but is differentiated by the spreading indumentum, shorter obovate-cuneate leaflets, and smaller flowers of which the corolla is included within the calyx.

75. *L. UNIFLORA*, Kensit, in *Trans. Roy. Soc. S. Africa*, I. (1909), 147.

South Africa. Kalahari Region. Transvaal: Rustenberg, 1350 m., *Miss*

Olive Nation, 315, *Herb. Bolus*; Maxalaquena River, 1275 m., *Schlechter*, 4280; Transvaal, *Kirk*, 109! Eastern Region Natal: *Gerrard* 1771!

Allied to *L. LAXA*, Eckl. and Zeyher, but with bistipulate leaves, linear lanceolate almost pungent leaflets, and long peduncled flowers, the peduncle almost at right angles to the axis and often geniculate. *Gerrard's* specimen from Natal is more slender in all its parts, but otherwise is inseparable. The species extends into Portuguese East Africa, where at Ressano Garcia it has been found by Dr. R. Schlechter (No. 11906).

76. *L. DINTERI*, Schinz in Vierteljahrsschr. Nat. Ges. Zürich, lii. (1907), 423. *L. clandestina*, Baker, in Oliv. Fl. Trop. Afric. II. 6 (not of Bentham).

Tropical West Africa. Benguella, Mossamedes, in the sands near the sea-shore, *Welwitsch*, 1903! lat. 23°, *Chapman* and *Baines*!

German South-West Africa Hereroland. Otavi, Dinter, 664! Damaraland, *Een*, *Herb. Mus. Brit.*

Shinz's type specimen in no way differs from those cited by Baker, except in being more luxuriant, and is perfectly distinct from *L. clandestina*, Benth., to which the latter author referred his specimens.

Var. *AMBOENSIS*, Schinz, l.c.

German South-West Africa. Amboland: Uukuanyama, *Rantanen*, 549, 28. 111.

The variety, which I have not seen, is reputed to differ in its more silvery-grey aspect and shorter leaflets.

77. *L. MOLLIS*, Bentham, l.c. 609; Harvey, l.c. 64. *Leptis mollis*, Bth., in Ann. Wien Mus. II. (1838), 142. *Lipozygis mollis*, E. Meyer. l.c. 79. *L. villosa*, Benth., l.c. *Leptidium molle*, Presl. Bot. Bemerck, 49. *Polylobium molle*, D. Dietr. Syn. Pl. IV. 962.

South Africa. Western Region. Little Namaqualand: Lily Fontein, Ezel's Kop, 1200–1500 m., *Drège*, *Herb. Kew*!

A species represented by a small specimen in the Kew Herbarium, which has apparently never been rediscovered since the time of *Drège*.

78. *L. ADPRESSA*, N. E. Brown, in Kew Bull. (1906), 18.

South Africa. Eastern Region. Natal: Stony hill near Charlestown, 1500–1800 m., *Wood*, 5712! *Wood*, 6317, *Herb. Natal* and *Edinburgh*!

In many respects not unlike *L. laxa*, Ecklon and Zeyher, but with the indumentum less shiny and more hirsute-sericeous, shorter and broader leaflets, slightly larger flowers with a distinct obtuse carina.

79. *L. SERICOFLORA*, Dümmer, sp. nov. *L. adpressae*, N. E. Brown,

similis sed foliis utrinque sericeis, vix hirsuto-sericeis, floribus saepius binis, vexillo angustiore distat.

Planta suffruticosa, prostrata, ramosissima, ubique corollis exceptis, primo subsericea, mox fere strigosa, caulibus teretiusculis ad 12 cm. longis. *Folia* trifoliolata, conferta; petioli ad 4 mm. longi, supra valde sulcati, stipulam unicam subulatam saepe aequantes; foliola anguste cuneata vel oblanceolata, acutata aut mucronulata, inter se fere aequilonga, ad 7 mm. longa, 2 mm. lata, dorso medio costata, subcoriacea. *Flores* solitarii vel interdum gemmati ternative, oppositifolii, breviter pedicellati, roseo-diffusi (in sicco). *Calyx* 6 mm. longus, dentibus superioribus deltoideis 1 mm. vix excedentibus, segmento inferiore subulato ceteris tertio longiore. *Vexillum* spatulatum cum ungui 9 mm. altum, lamina acutata, postice valde sericea, ungui fere longiore; alae breviter unguiculatae, leviter falcato-oblongae, 8.5 mm. longae, apice obtusae, basi obtuse auriculatae, glaberrimae; carina alis similis, nisi latior longiorque, unguibus longioribus, limbo frontem versus et ad marginem inferiorem sericulo. *Ovarium* stylo glabro subaequilongum. *Legumen* rectum, oblongum, compressiusculum, 8 mm. longum, sericulum, 6-spermum.

South Africa. Kalahari Region. Transvaal: Hogge Veld, Standerton, Rehmann, *Herb. Kew* and *Zürich*, 6802!

80. *L. MAROCCANA*, Ball, in *Jour. Bot.* XI. (1873), 302; *Linn. Soc. Bot.*, XVI. 394, pl. XV.

North Africa. Morocco: in the Urika valley, 960–1200 m., *Ball*! In stony and sandy places on the Greater Atlas, Ait Mesan, 1200–2000 m., *Ball*! Near Amsmiz, 900–1100 m., *Ball*! Between Taperemont and Ourika, and near Tassgit, *Maw*! Ourika, 900 m., *Hooker*! Siggrat and Ghiliz, *Cosson*!

81. *L. GENISTOIDES*, Benth., l.c. 607; Boissier, l.c. 31. *Lebordea genistoides*, Fenzl, *Illust. Pl. Taur.* in *Russ. Rev.* 901, t. 4. *L. cytisoides*, Bal. ex Boiss. *Fl. Orient.* ii. 31. *L. argyrolobioides*, Jaub and Spach, in *Ann. Sci. Nat. Ser. II. XIX.* (1843), 237. *L. lotoides*, Fenzl, *Pugill. Pl. Nov. Syr.* 6. *L. sericea*, Ledeb. *Fl. Ross.* i. 512.

Orient. Dry hills near Elmalu, *Bourgeau*, 95! on hills at Egirdir, *Heldreich*! Taurus Mountains, *Kotschy*, 159! Lydia, about Smyrna, *Balansa*, 184! *Boissier*! Anata, *Wiedeman*. Gulahek, *Balansa*! Phrygia above Ouchak, 940 m., *Balansa*, 1209! Phrygia, Akscheher, in stony places at Yasian, 1000 m., *Bornmüller*, 4260!

82. *L. BRACHYLOBA*, Benth., l.c. 608; Harvey, l.c. 63. *Lipozygis brachyloba*, E. Meyer, l.c. 78. *Leptidium brachylobum*, Presl, l.c. 49. *Leptis brachyloba*, Bth., in *Ann. Wien Mus. II.* (1838), 142. *Polylobium brachylobum*, D. Dietr. *Syn. Pl. IV.* 962.

South Africa. Coast Region. Clanwilliam Div. : Blaauw Berg, 300 m., *Schlechter*, 8462. Piquetberg Div. : On slopes of mountains near Piquetberg, *Bolus*, 7519. Central Region. Ceres Div. : Near Yuk River, *Burchell*, 1273 ! Western Region. Little Namaqualand. Between Koper Berg and Kook Fontein, Drège ! ; Riet Kloof, near Bowesdorp, *Schlechter*, 11189 ! or 11183 ! In sandy places near Abbevlakte, 210 m., *Bolus*, 6523 ! ; between Spektakel and Komaggas, 360 m., *Bolus* ! ; *Bolus*, *Herb. Norm. Aust.-Afr.* 444 ! Great Namaqualand, Eisib, *Schinz*, *Herb. Zürich* !

83. *L. FALCATA*, Bentham, l.c. 608 ; Harvey, l.c. 64. *L. decipiens*. *Schlechter*, in *Pl. Nov. Then.* I. (1906), 183, t. 40. *Lipozygis falcata*, E. Meyer, l.c. 78. *Leptidium falcatum*, Presl. *Bot. Bemerck.* 49. *Polylobium falcatum*, D. Dietr. *Syn. Pl.* IV. 962. *Leptis falcata*, Benth., in *Ann. Wien Mus.* ii. (1838), 142.

South Africa. Western Region. Little Namaqualand : Orange River, near Verleptpram, 150 m., *Drège a* ! In a valley of the mountains near Oograbies Poort, 120 m., *Bolus*, 6522 ! *Bolus*, *Herb. Norm. Aust.-Afr.* 443 ! Namaqualand, *Wyley* ! Coast Region. Van Rhynsdorp Div. : Wind Hoek, 90 m. *Schlechter*, 8075 ! Zout River, 130 m., *Schlechter*, 8132, partly ! Clanwilliam Div. : On hills, Brackdam, 540 m., *Schlechter*, 11113 !

Without locality. *Zeyher*, 390 !

Schlechter's specimens of *L. decipiens* do not materially differ from *Drège's* specimen, upon which Bentham founded his species, except in the straighter pods, which character in its entirety cannot be regarded as of sufficient moment to warrant the retention of the name. *Wyley's* and *Zeyher's* specimens are peculiar in being nearly a foot high and very fastigiate, but the smaller flowers, their paucity, and the narrow subfalcate pods are sufficient to illustrate the justice of Harvey's view as to their conspecificity. The species extends northward into Great Namaqualand, where *Schinz* and *Dinter* have collected it.

84. *L. LEPTOLOBA*, *Bolus*, in *Engler's Bot. Jahrbuch*, XXIV. 457.

South Africa. Coast Region. Van Rhynsdorp Div. : Zout River, 130 m., *Schlechter*, 8131 ! 8143 ! 8130 ! 8132, partly !

An annual like the preceding species, but with slightly shorter obovate-cuneate leaflets, and deeply cleft calyces, twice as long, broader and shorter legumes.

85. *L. MAXIMILIANI*, *Schlechter*, in *Pl. Nov. Then.* I. (1906), 187, t. 41.

South Africa. Coast Region. Clanwilliam Div. : On hills, Achttertuint, 240 m., *Schlechter*, 10851 ! Central Region. Ceres Div. : Near Yuk River, *Burchell*, 1275 !

More robust in all its parts than *L. leptoloba*, Bolus, the leaflets often subacute, and when young, strigillose, the flowers blue and longer pedicellate, the calyces and legumes hirtellous.

86. *L. PUMILA*, Ecklon and Zeyher, Enum. Pl. 178; Benth. l.c. 609, and var. *micrantha*, Harvey, l.c. 65. *L. micrantha*, Eckl. and Zeyh. l.c. *Lipozygis erubescens* v. *microphylla* and *macrophylla*, E. Mey. l.c. 76 and 77. *Polylobium erubescens*, D. Dietr. Syn. Pl. iv. 962. *Leptis erubescens*, Bth., in Ann. Mus. Wien, ii. (1838), 142. *Leptidium erubescens*, Presl. loc. cit. 49.

South Africa. Coast Region. Riversdale Div.: Gauritz River, *Ecklon* and *Zeyher*, 1283. Uitenhage Div.: Grass ridge, *Ecklon* and *Zeyher*, 1280. Central Region. Willowmore Div.: Zwanepoels Poort, 600 m., *Drège*! Somerset Div.: Near Little Fish and Great Fish Rivers, 600–900 m., *Drège* a! Somerset, *Mrs. Bowker*! Graaff Reinets Div.: On hills near Graaff Reinets, 840 m., *MacOwan*, 599!

87. *L. RARA*, Dümmer, sp. nov. *L. pumilae*, Eckl. et Zeyh., peraffinis sed foliis anguste ellipticis longioribus pallide viridescentibus supra mox glabris differt.

Planta perennis? parva, e basi verticillatim ramosa, caulibus prostratis paucis paene simplicibus nunc ad 6 cm. longis ubique adpresse strigillosis viridescentibus. *Folia* trifoliolata; petioli 4–20 mm. longi; foliola perbreviter petiolulata, obovato-cuneata vel elliptica, rotundato-mucronata vel utrinque angustata, terminalia 5–20 mm. longa, 1·5–4 mm. lata, lateralia breviora, supra parcissime adpresse strigillosa, mox glabra, fere enervata, subtus valde adpresse strigillosa, coriacea, laete viridia; stipula solitaria, falcato-lanceolata, acuta, ad 3 mm. longa. *Flores* folio oppositi, solitarii, flavidi; pedicelli fere 2 mm. longi ut calyce strigillosi. *Calyx* 2–2·5 mm. longus, ad medium fissus, lobis subulatis inter se aequalibus. *Vexilli* lamina ungui longior, oblonga vel ovata, obtusa aut acutata, basi fere cordata vel truncata, postice medio pilis deciduis longitudinaliter instructa; alae fere rectae, in toto 5–6 mm. longae, limbis oblongis obtusis basi obtuse sagittatis; unguis gracillimi, limbis triente longiores; carina alis similis nisi latior apice rotundata. *Ovarium* ubique valde hirsutulum, stylo glabro ovario dimidio brevior fere genuflexo, stigmatibus oblique subcapitato. *Legumen* ignotum.

South Africa. Central Region. Graaff Reinets Div.: In a plain near Graaff Reinets, 780 m., *Bolus*, 770!

88. *L. TENUIS*, Baker, in Oliver's Fl. Trop. Afr. II. 5.

Tropical Africa. Lower Guinea. Angola; Mossamedes, in sandy ground by the River Beco, *Welwitsch*, *Herb. Brit. Mus.* and *Kew*!

89. *L. DEPRESSA*, Ecklon and Zeyher, Enum. Pl. 178 (1835); Harvey, l.c. 62.

South Africa. Coast Region. George Div.: Between the Gauritz River and Lange Kloof, *Ecklon* and *Zeyher*, 1278. Central Region. Somerset East Div.: Stony places near Little Fish River, 500 m., *MacOwan*, 1686! Graaff Reinet Div.: Grassy hills, Poutlock, near Graaff Reinet, *Mrs. Bowker*, 15!

90. *L. FLAVA*, Dümmer, species nova, inter *L. depressam*, Eckl. et Zeyh., et *L. pungentem*, Eckl. et Zeyh., sed habitu glabriore, foliolis latoribus fere truncatis nec pungentibus, vexillo toto glabro differt.

Herba perennis, laxe foliata, obscure breviter adpresse strigillosa; caules prostrati, teretiusculi, graciles, ad 15 cm. longi, parce ramosi. *Folia* trifoliolata; petioli ad 5 mm. longi, supra sulcati, subtus convexiusculi, inconspicue strigillosi; foliola cuneata, truncata vel rotundato-truncata, leviter emarginata, rarius mucronulata, terminalia 7–15 mm. longa, 2–3 mm. lata, lateralia horizontalia paulo breviora, supra glaberrima, fere enervata, subtus adpresse strigillosa, deinde fere glabrescentia, subcoriacea, laete virescentia; stipula unica, falcato-subulata, circiter 2.5 mm. longa. *Flores* singuli, foliis oppositi, flavi (fide *Burchell*); pedicelli recti vel interdum fere geniculati, graciles, ad 6 mm. longi, ut videtur ebracteolati. *Calyx* circiter 5 mm. longus, aequaliter quinquefidus, extra strigillosus, fisso inferiore ceteris paullulo angustiore et longiore. *Corolla* glaberrima; vexillum perbreve unguiculatum, in toto 9 mm., altum, lamina fere orbiculata, apice late triangulare, basi subcordata, dorso carinata; alae perbreve unguiculatae, limbis fere rectis oblongis 5 mm. longis obtusis basi leviter auriculatis; carina alis similis sed naviculariore. *Ovarium* hirsutum, stylo arcuato glabro. *Legumen* rectum, oblongum, vix turgidum, ad 10 mm. longum, 3–3.5 mm. latum, ad suturam superiorem leviter hirsutum, ceteris glabrum, ad 18-spernum; funiculi filiformes, ad 1 mm. longi.

South Africa. Coast Region. Mossel Bay Div.: Dry hills on the eastern side of the Gauritz River, *Burchell*, *Herb. Kew*, 6420!

91. *L. PUNGENS*, Ecklon and Zeyher, Enum. Pl. 177; Harvey, l.c. 62. *L. affinis* and *L. decidua*, Eckl. and Zeyher, l.c.

South Africa. Coast Region. Riversdale Div.: Sandy places near the Gauritz River, *Ecklon* and *Zeyher*, 1279. Bathurst Div.: On hills between Bushman's River and Karrega River, *Ecklon* and *Zeyher*, 1281. Fort Beaufort Div.: Karroid places near Koonap Hills, *Ecklon* and *Zeyher*, 1277. Central Region. Somerset East Div.: Stony places near Somerset East, *MacOwan*, 1143! Graaff Reinet Div.: Stony hills near Graaff Reinet, 540 m., *Bolus*, 446!

92. *L. TENELLA*, Ecklon and Zeyher, Enum. Pl. 178; Benth., l.c. 610; Harvey, l.c. 65. *L. tenella*, var. *angustifolia*, Harvey, l.c. *Lipozygis tenella* v. *piloso-villosa*, E. Meyer, l.c. 78. *Leptidium tenellum*, Presl. Bot. Bemerk. 49. *Polylobium tenellum*, D. Dietr. Syn. Pl. IV. 962.

South Africa. Coast Region. Alexandria Div.: Oliphant's Hoek at the Zwartkops River, *Ecklon* and *Zeyher*, 1282! Albany Div.: Fish River Heights, *Hutton*! Central Region. Prince Albert Div.: Great Zwarteberg Range, 900–1200 m., *Drège* a!

Without precise locality. *Mund* and *Maire*! *Zeyher*, 2310!

Among *Drège's* collection of *Lipozygis tenella* there are three small decrepit specimens of an undescribed species, which exhibit an affinity to *Lotononis pumila*, Eckl. and Zeyh.; their leaflets are obovate-cuneate, rotundate or emarginate, subequal among themselves, 5 mm. long, 1.5–2 mm. broad, equals the petiole, or shorter than them, sericeous on both surfaces, greenish and subcoriaceous; stipules? *Flowers* shortly pedicellate, solitary, axillary or opposite to the leaves. *Calyx* hirtellous, membranous, cleft to the middle or lower, 7 mm. long; lobes subequal, narrowly triangular. *Legume* straight, oblong, compressed, 8–9 mm. long, about 20-seeded.

Lack of perfect flowering material prevents an adequate description being offered, but provisionally the species is named *L. decrepita*.

The distribution of *L. tenella* var. *hirsutissima*, Harvey, suggests a closer relationship to *L. calycina*, to which species it is therefore referred.

93. *L. ORTHORRHIZA*, Conrath, in Kew Bull. (1908), 222.

South Africa. Kalahari Region. Transvaal: Modderfontein, *Conrath*, 121!

Closely allied to *L. tenella*, Eckl. and Zeyh., but differing in the longer calyx-tube, very pilose corolla and legume, which latter equals the calyx.

94. *L. VERSICOLOR*, Benth., l.c. 610; Harvey, l.c. 66. *Leptis versicolor* and *L. filicaulis*, Eckl. and Zeyh. l.c. *L. Kraussiana*, Walp. Repert. ii. 837. *Lipozygis Kraussiana*, Meisner, in Hook. Lond. Jour. Bot. II. (1843), 79. *Leptidium versicolor*, Presl. Bot. Bemerk. 49 (1844).

South Africa. Coast Region. Uitenhage Div.: On the fields near the Zwartkops River, *Zeyher*, 485 or 465! 408! Winterhoek, *Krauss*, *Herb. Zürich*! Albany Div.: Albany, *Mrs. Bowker*!

Meisner's specimens of *Lipozygis Kraussiana*, which I have seen, agree with *Lotononis versicolor*, Benth.

95. *L. NEGLECTA*, Dümmer, sp. nov. *L. versicolori*, Benth., persimilis sed glabrior, foliolis minoribus obovato-cuneatis perbreviter cuspidatis

crassioribus, floribus paulo minoribus, vexillo auguste oblongo glaberrimo, ovario haud hirsuto recedit.

Herba perennis, humifusa, caulibus divaricato-ramosis ad 10 cm. longis conferte foliatis primo adpresse inconspicue breviter strigillosis mox glabrescentibus atrobrunneis. *Folia* trifoliolata; petiolus 2 mm. longus, mox glabrescens; foliola saepissime conduplicata, auguste cuneata, rotundata, perbreviter reflexo-cuspidata vel acutata, inter se subaequalia, 2·5–4 mm. longa, 1–2 mm. lata, supra medio canaliculata, glaberrima, subtus costata, adpresse breviter strigillosa, sed mox ubique glabra, crassiuscula; stipula minuta, subulata. *Flores* axillares, solitarii aut rarius gemini, oppositi, brevissime pedicellati, probabiliter orangeani. *Calyx* 3–3·5 mm. longus, extra parcissime breviter strigillosus, venosus; dentes superiores 4, subulati, tubo triente longiores, inferiore 2 mm. longo. *Corolla* glaberrima; vexillum unguiculatum, auguste oblongum, utrinque rotundatum prope medio paulo contractum, in toto 5 mm. longum; unguis latus, 1·5 mm. longus; alae fere rectae, oblongae, obtusae, basi paullulo sagittatae, in toto 5 mm. longae; carina alis similis nisi paullulo latior longiorque. *Ovarium* lineare, mox glabrum, fuscum; stylus ovarium aequans aut superans, paulo arcuatus.

South Africa. Coast Region. Uitenhage Div.: Uitenhage, *Pappe, Herb. Kew*!

Represented at Kew by a very small specimen, which has dried a dark brown.

96. *L. CARINATA*, Benth., in Hook. Lond. Jour. Bot. II. (1843), 609; Harvey, l.c. 64. *Lipozygis carinata*, E. Meyer, l.c. 80. *Polylobium carinatum*, Bth., in Ann. Wien Mus. II. (1838), 142.

South Africa. Eastern Region. Natal: Between Umzimkulu River and Umkomanzi River, below 150 m., *Drège*!

97. *L. FLORIFERA*, Dümmer, sp. nov. *L. carinatae*, Benth., affinis sed floribus paulo majoribus numerosioribus saepe umbellatim 2–5-dispositis recedit.

Planta perennis, multiramosa, diffusa, ramis junioribus gracilibus teretibus circiter 10 cm. longis flavidis levibus adpresse pubescentibus senioribus lignescentibus fuscis. *Folia* trifoliolata, internodos aequantia, vel iis saepe multo breviora; petioli 1–3 mm. longi; stipulae gemmatae, falcato-lineares, 1 mm. vix longae; foliola cuneata aut lanceolata, acutata vel mucronata, subaequalia aut intermedia paulo longiora, 5–10 mm. longa, 1–2 mm. lata, dorso molliter sericea, valde costata, supra glabra, herbacea aut leviter coriacea. *Flores* axillares, solitarii vel in umbellas sessiles 2–5-floras dispositi, brevissime pedicellati, flavidi (teste *Wood*), bracteola nulla vel minutissima. *Calyx* 5–6 mm. longus, molliter flavide sericeus, ad

medium fissus, lobis superioribus subulatis, lobo inferiore paulo brevior. *Vexillum* cum ungui 9 mm. longum, limbo subreflexo ovato obtusiusculo, basi rotundato aut subtruncato extra valde sericeo-hirsutulo; unguis 2-2.5 mm. longus, glaber; alae 8 mm. longae, limbis anguste oblongis rotundatis basi obtuse sagittatis extra inferne prope marginem sericulis, unguibus gracillimis glabris; *carinae* limbus 5-6 mm. longus, 2.5 mm. latus, fronte paene rotundatus, basi leviter obtuse auriculatus, extra valde sericeo-hirsutulus; ungues angustissimi, glabri, 3-4 mm. longi. *Stylus* arcuatus, glaber, ovario subaequilongus. *Legumen* suboblongum, rectum, compressiusculum, 10 mm. longum, 3 mm. latum, sericulum, 6-spermum, spermis orangeani.

South Africa. Eastern Region. Zululand: N'Tondweni, *Wood, Herb. Kew*, 9284!

98. *L. ARIDA*, Dümmer, sp. nov. *L. mucronatae*, Conrath, affinis partibus junioribus albo-tomentellis, floribus paulo brevioribus orangeanis, carina curvatiore distinguitur.

Planta perennis, diffuse-prostrata, multiramosa, ubique foliata, ramis gracilibus ad 15 cm. longis, junioribus albo-tomentellis. *Folia* trifoliolata; petioli 3-5 mm. longi, sulcati, primo albo-tomentelli; foliola perbreviter petiolulata, anguste cuneata, acutata, terminalia 3-4 mm. longa, lateralia paulo breviora, juventute albo-tomentella, mox glaberrima, subcoriacea, viridescencia; stipula unica, interdum falcata, lineare, acuta, 1 mm. longa. *Flores* axillares, singuli vel raro gemmati, perbreviter pedicellati, orangeani. *Calyx* 2.5-3 mm. longus, extra albo-sericeus, segmentis superioribus anguste deltoideis circiter 1 mm. longis, inferiore superioribus acuminatiore duplo longiore. *Vexillum* in toto 5-6 mm. altum, limbo ovato apice late triangulare basi subhastato ungui fere duplo longiore postice apicem versus paullulo pubescente; alae anguste oblongae, 4-5 mm. longae, obtusae, obtuse sagittatae, glaberrimae; carina subcurvata, 3-5 mm. longa, 1.5 mm. lata, obtusa, angustissime sagittata, frontem versus parcissime pubescens; ungues gracillimi, 1.5 mm. longi. *Ovarium* tenuiter sericeum, stylo duplo longiore fere recto glabro, stigmatibus oblique subcapitato.

South Africa. Central Region. Aliwal North Div.: On dry stony flat ground on mountain-tops, Eland's Hoek, 1500 m. near Aliwal North, *Bolus, Herb. Kew*, 10559!

99. *L. PUSILLA*, Dümmer, sp. nov. *L. aridae*, Dümmer, affinis sed habitu caespitosa, caulibus brevissimis nec albo-tomentellis, foliolis obovato-cuneatis, floribus pallide citrineis, vexillo postice fere omnino sericeo distat.

Herba caespitosa, basi lignosa; radix verticaliter descendens, fusiformis, vix fibrosa, 2.5 mm. crassa; caules plurimi, conferti, adpresse prostrati, ad

5 cm. longi, undique adpresse breviter strigillosi, demum glabrati, fuscii. *Folia* trifoliolata; petiolus gracilis, foliolis aequalis; foliola perbreviter petiolulata, obovato-cuneata, rotundata, emarginata aut recurvo-mucronata, 2-5 mm. longa, 1.5-2 mm. lata, subtus parce adpresse breviter strigillosa, basin versus costa prominente, supra glaberrima, costa impressiuscula, coriacea; stipula unica, oblique lanceolata, acuta, 1 mm. longa. *Flores* axillares, solitarii, subsessiles aut breviter pedicellati, pallide citrinei. *Calyx* 4.5-5 mm. longus, ultra medium 5-fidus, extra adpresse strigillosus, lobis subaequalibus anguste triangularibus. *Vexillum* breviter unguiculatum, circiter 6 mm. altum, lamina late oblonga subrotundata basi subhastata extra sericula; alae anguste subfalcato-oblongae, 6 mm. longae, rotundatae, basi sagittatae, fere glabrae, unguibus limbo triente brevioribus; carina alis similis sed latior curvatorque, obtusa, frontem versus parce sericea. *Ovarium* lineare, fere glabrescens, stylo paene geniculato ovario duplo longiore stigmatibus oblique subcapitato.

South Africa. Central Region. Aliwal North Div.: Slopes of mountains, Eland's Hoek, Aliwal North, 1970 m., *Bolus, Herb. Kew*, 10535!

100. *L. mucronata*, Conrath, in *Kew Bull.* (1908), 222.

South Africa. Kalahari Region. Transvaal: Modderfontein, *Conrath, Herb. Kew*, 124! Johannesburg, *Rand, Herb. Brit. Mus.* 675!

With the general facies of *L. Gerrardii*, Dümmer, but with more acute leaflets, slightly longer flowers, and larger legumes.

101. *L. GERRARDII*, Dümmer, sp. nov. *L. mucronatae*, Conrath, affinis sed habitu laxiuscule diffusiore, ramulis junioribus haud albo-pilosis, foliolis paulo latoribus obovato-cuneatis rotundatis glaberrimis, corollis glaberrimis, leguminibus brevioribus recedit.

Herba perennis, laxè humifusa, basi lignescens, caulibus filiformibus multiramosis circiter 20 cm. longis, lateralibus duplo brevioribus, inconspicue adpresse breviter strigillosis deinde glabris ochraceis aut atrobrunneis. *Folia* trifoliolata; petioli filiformes, foliola et internodiis fere subaequantes; foliola obovato-cuneata, rotundata, interdum mucronulata, rarissime emarginata, intermedia 4-7 mm. longa, 1.5-2.5 mm. lata, lateralia terminalibus paulo breviora aut raro longiora, supra medio canaliculata, utrinque glaberrima, carunculata, vix coriacea, margine incrassata; stipulae singulae, oblique lanceolatae, acutae, 1-2 mm. longae. *Flores* solitarii (raro gemini), folio oppositi aut interdum terminales, fere glabri, pauci, flavi; pedicelli 2 mm. longi, bracteola minuta. *Calyx* circiter 5 mm. longus, inferne medio fissus, laciniis superioribus subulatis, inferne superioribus paulo longiore lineare-subulata. *Vexillum* spatulatum cum ungui 7 mm. longum, lamina oblonga, acutata, basi hastata; alae breviter unguiculatae, vexillo fere aequilongae, limbis

leviter curvatis oblongis obtusiusculis obtuse sagittatis; carina alis similis sed latior. *Legumen* rectum, oblongum, complanatum, frontem versus subampliatum, 8 mm. longum, glabrum, laeve, ochraceum, 6-spermum.

South Africa. Eastern Region. Natal and Zululand. Without precise locality, *Gerrard*, *Herb. Kew* and *Brit. Mus.*, 1075!

Var. *TRANSVAALENSIS*, Dümmer, typo minor et primo pagina inferiore foliorum adpresse breviter strigillosa, floribus sericulis differt.

Kalahari Region. Transvaal: Near the Klein Oliphants River, 1530 m., *Schlechter*, *Herb. Zürich* and *Kew*, 3809!

A small appressedly prostrate herb, 5–10 cm. in diameter, differing principally from the species in the lower surfaces of the leaves being covered at first with minute adpressed stiff hairs, and the flowers, which are inconspicuously sericeous.

102. *L. HUMIFUSA*, Burchell ex Bentham, l.c. 609; Harvey, l.c. 64. *Lipozygis humifusa*, E. Meyer, l.c. 77. *Polylobium humifusum*, Dietr. Syn. Pl. IV. 962.

South Africa. Coast Region. Bathurst Div.: Riet Fontein and vicinity, between Kasuga River and Port Alfred, *Burchell*, 3927! Albany Div.: Fish River heights, Albany, *Hutton*! in the plains near Grahams-town, *MacOwan*, 6!

Var. *RADULA*, Harvey, l.c. *Lipozygis radula*, E. Meyer, l.c. 77. *Polylobium radulum*, Dietr. Syn. Pl. IV. 962.

Central Region. Albert Div.: Albert, *Drège*, *Herb. Sond.*

103. *L. REHMANNII*, Dümmer, sp. nov. *L. humifusae*, Burch., affinis a qua ramulis hirtellis, stipulis majoribus, floribus paullulo minoribus, calyce hirtello distinguitur.

Herba perennis, humifusa, multiramosa, caulibus ad 25 cm. longis teretiusculis hirtellis conferte foliatis. *Folia* trifoliolata, stipulata, subsessilia vel petiolis ad 3 mm. longis suffulta; foliola elliptica vel obovata, apiculata, intermedia ad 6 mm. longa, 2–3 mm. lata, lateralia paulo breviora, supra glabrescentia, subtus parce hirtella, mox utrinque glabra, costa prominula, fere chartacea, laxe ciliata; stipula ovata, breviter cuspidata, 1.5 mm. vix excedens. *Flores* terminales aut oppositifolii, solitarii, aut bini subsessiles, sicco citrinei. *Calyx* 7 mm. longus, extra parce sulphureo-hirtellus, ultra medium fissus, fassis acuminatis. *Vexillum* unguiculatum, spatulatum, lamina ungui aequilonga, acutata, basi rotundata, postice medio sericea; alae longe unguiculatae, 8 mm. longae, laminis falcato-oblongis rotundatis basi obtuse auriculatis; carina alis

latis longiorque, ad frontem paullulo hirtella. *Ovarium* hirsutulum; stylus arcuatus, superne glaber.

South Africa. Kalahari Region. Transvaal: Hogge Veld, Perekopberg, *Rehmann, Herb. Zürich and Kew*, 6831!

A species exhibiting affinities to *L. calycina*, Benth. and *L. humifusa*, Burch., respectively, but differing from the former in the almost glabrous carina, which exceeds the calyx in length, and though having a resemblance to the latter, the shorter flowers and hairy calyx distinguish it from that species immediately.

104. *L. ORNATA*, Dümmer, sp. nov. *L. humifusae*, Burchell, affinis ab floribus minoribus, vexillo breviter unguiculato, limbo oblongo fere glabro, carina latiore glabra distinguitur.

Planta perennis, humifusa, caulibus ad 15 cm. longis parcissime adpresse pubescentibus aut mox glabris, ochraceis; ramuli laterales, breves, plurimi, valde foliati floriferique. *Folia* trifoliolata; petioli stipulam aequantes vel duplo superantes; foliola obovato-cuneata, apice rotundata, lateralia 3 mm. longa aut minora, terminalia paulo majora, supra glaberrima, subtus sericula, demum glabrescentia, fere enervata, crassiuscula; stipula unica, subulata, 1 mm. vix excedens. *Flores* axillares vel ramulos laterales brevissimos terminantes, singuli, subsessiles, sicco pallide straminei. *Calyx* 5 mm. longus, extra sericulus, venosus, dentibus superioribus triangularibus 1 mm. longis, inferiore duplo longiore. *Vexillum* perbreviter unguiculatum, in toto 9 mm. altum, lamina late oblonga vel late ovata, obtusa aut acutata, basi fere truncata, postice ad carinam pilis instructa; alae 6-7 mm. longae, glabrae, limbis paulo curvatis oblongis rotundatis basi obtuse sagittatis, unguibus limbis duplo aut tertio longioribus; carina alis similis, nisi paulo longior et latis, basi anguste sagittata; unguis gracillimi. *Ovarium* lineare, frontem versus et ad suturum superiorem hirsutulum, stylo curvato superne glabro, stigmate oblique subcapitato.

South Africa. Kalahari Region. Basutoland; without further indication as to locality. *Cooper, Herb. Kew*, 745!

105. *L. MICROPHYLLA*, Harvey, l.c. 65.

Coast Region. Queenstown Div.: Plains near Queenstown, 1050 m., *Galpin*, 2334! Shiloh, at Upper Klipplaat, 1200 m., *Baur*, 871!

Without precise locality. *Zeyher, Herb. Sonder.*

106. *L. AMBIGUA*, Dümmer, sp. nova. *L. microphyllae*, Harvey, affinis sed foliis amplexibus rotundatioribus calyce corollam fere aequante distinguitur.

Suffruticosus humifusus, divaricato-ramosus, dense foliatus floriferusque, inconspicue breviter adpresse strigillosus, caulibus lignescentibus

ad 20 cm. longis. *Folia* trifoliolata; petioli 1–2 mm. longi, teretiusculi; foliola late cuneata, rotundata, saepissime mucronulata, petiolos aequantia aut paulo superantia, aequalia vel terminalia leviter longiora, supra glabra, subtus breviter adpresse strigillosa et medio costata, coriacea; stipula unica, falcato-subulata, minuta. *Flores* singuli vel bini, axillares aut ad ramulos laterales brevissimos dispositi, perbreviter pedicellati, pallide sulphurei. *Calyx* 5 mm. longus, extra sericulus, ad medium fissus, laciniis subulatis subaequilongis. *Vexillum* unguiculatum, 5 mm. altum, lamina ovata acuta subhastata postice sericula, ungui latiusculo fere duplo longiore; alae leviter curvatae, anguste oblongae, 5–6 mm. longae, obtusae, truncatae; carina fere recta, alis similis nisi latior inconspicue sericula, mox glabra. *Ovarium* stylum crescentem aequans. *Legumen* rectum, oblongum, subturgidum, 5 mm. longum, inferne parce sericeum, ochraceum, seminibus 8–10.

South Africa. Coast Region. Somerset East Div.: Fields near Somerset East, 500 m. *MacOwan*, 1739! Eastern Region. Natal: Boschberg, 900 m., *MacOwan*, 2022, partly!

107. *L. CALYCINA*, Benth., l.c. 610. *L. tenella*, var. *calycina*, Harvey, l.c. 651. *L. divaricata*, Ecklon and Zeyher ex Harvey, l.c. *Leptis divaricata*, Eckl. and Zeyh. l.c. 175. *L. calycinum*, Benth. in Ann. Wien Mus. II., (1838), 142. *Lipozygis calycina*, E. Meyer, 78 (in part). *Leptidium calycinum*, Presl. Bot. Bemerk. 49; *Polylobium calycinum*, D. Dietr. Syn. Pl. IV. 962.

South Africa. Coast Region. Stockenström Div.: Kat Berg, 1200–1500 m., *Drège* a! King Williamstown Div.: Sandy slopes near King Williamstown, 540 m., *Tyson*, *Norm. Aust.-Afr.* 852! In fields near Somerset East, *MacOwan*, 2022, partly! Kalahari Region. Orange River Colony: Vaal River, *Burke*! Thaba Unchu, *Burke*, 436! *Zeyher*, 406! Eastern Region. Natal: Hoffenthal, Upper Tugela, *Wood*, 3535! *Gerrard*, 1733, partly! Bank of Tugela, Weenen County, *Wood*, 3548! Near Maritzberg, *Wood*, 3164! *Mrs. K. Saunders*!

Var. *HIRSUTISSIMA*, Dümmer, comb. nov. *L. tenella*, var. *hirsutissima*, Harvey, l.c.

Kalahari Region. Transvaal: Magaliesberg, *Zeyher*, 407! *Burke*! Pretoria, near Wonderboompoort, *Rehmann*, 4599! 6215! Bechuanaland Div.: Near pass in the Kuruman Hills, *Burchell*, 2175!

Var. *ACUTA*, Dümmer, var. nov. a typo foliolis ellipticis acutatis nec rotundatis, floribus paulo majoribus distinguenda.

Habit of the species, but more floriferous; leaflets more or less elliptic, subacute, tapering to the base into scarcely perceptible petiolules, 5–8 mm.

long, 1.5–3 mm. broad, the terminal leaflets slightly exceeding the lateral ones. *Flowers* solitary or in pairs, invariably opposite the leaves, shortly pedicellate, yellow; bracteoles two, opposite, subulate. *Calyx* equally divided half-way, about 10 mm. long, densely fulvously pilose; carina scarcely exceeding the calyx in length, and slightly appressedly pubescent in front.

Kalahari Region. Transvaal: Lydenburg, *Wilms*, 272! 273! Orange River Colony. *Cooper*, 863! Landsbergs, about 20 miles from Middelburg, 1440 m., *Bolus*, 7709! Eastern Region. Natal: Valley of the Buffalo River near Charlestown, 1500–1600 m. *Wood*, 4796! Hillsides near Mooi River, 1200 m., *Wood*! near Maritzburg, *Wood*, 587! between Pietermaritzburg and Newcastle, *Wilms*, 1924!

As a result of a wide diffusion this species is most variable and difficult of limitation, but an examination of a series of specimens offer no justification for any separation, except where proposed. *Var. major* approximates very closely to *L. calycina*, v. *acuta*, but the tufted, erect habit of the annual shoots of the former is very characteristic. All the forms agree in having the calyx nearly as long as the carina, while the seeds are in all cases a brick-red; the indumentum is variable.

108. *L. DREGEANA*, Dümmer, sp. nov. ab affini *L. calycina*, Benth., foliolis floribusque minoribus et carina calyceam superante, distinguitur.

Suffruticosus prostratus, pumilus, sordidus, parce ramosus, sericeo-pilosus; caules ad 5 cm. longi, foliosi. *Folia* trifoliolata; petioli ad 2 mm. longi; foliola elliptica vel obovata, rotundata aut acutata, basin versus attenuata, ad 3 mm. longa, 1.5–2 mm. lata, lateralia aequilonga aut breviora, supra mox glabra; subtus sericeo-pilosa, vix coriacea; stipula una, parvula. *Flores* oppositifolii, solitarii, pauci, breviter pedicellati, probabiliter flavidi. *Calyx* 5 mm. longus, extra sericeus, lobis acutis tubo aequalibus. *Vexillum* unguiculatum, spatulatum, 6–7 mm. altum, acutatum, limbo dorso sericeo; alae breviter unguiculatae, fere glabrae, limbis oblongis rotundatis basi truncatis aut obtuse sagittatis; carina alis similis sed lamina naviculari sagittatiore ad margines inferiores ciliolata. *Ovarium* hirsutulum; stylus prorso arcuatus, stigmatibus subcapitato. *Lipozygis calycina*, var. *b.* E. Meyer, l.c.

South Africa. Coast Region. Queenstown Div.: Shiloh, 1050–1200 m. *Drège*!

Bentham, in describing *L. calycina*, alludes to this species, which is represented at Kew by a small specimen, and opines that it is probably distinct.

The following species, owing to their straight styles and correlated straight carinae, or their rostrate carinae, subequally 5-fid calyces and

occasional turgid pods, are referred to the genera *Pearsonia* and *Crotalaria* respectively. (Recent collectors' numbers are appended.)

1. *L. ACUTIFLORA*, Bentham = *CROTALARIA QUINATA*, E. Meyer.
2. *L. ARENICOLA*, Schlechter = *CROTALARIA ARENICOLA*, Dümmer, comb. nov.
Schlechter, 11206.
3. *L. ARISTATA*, Schinz = *PEARSONIA ARISTATA*, Dümmer.*
4. *L. FILIFOLIA*, Bolus = *PEARSONIA FILIFOLIA*, Dümmer.
5. *L. HAYGARTHII*, N. E. Br. = *PEARSONIA HAYGARTHII*, Dümmer.
6. *L. LENTICULA*, Bentham = *CROTALARIA LENTICULA*, E. Meyer.
Burchell, 1455! *Bolus*, 768! *Johanssen*, 24!
7. *L. MARGINATA*, Schinz = *PEARSONIA MARGINATA*, Dümmer.
8. *L. MICRANTHA*, Harvey = *CROTALARIA MICRANTHA*, E. Meyer.
Bolus, 7518! 8970! *Bachmann*, 2227!
9. *L. MULTIFLORA*, Schinz = *PEARSONIA MULTIFLORA*, Dümmer.
10. *L. NAMAQUENSIS*, Bolus = *CROTALARIA NAMAQUENSIS*, Dümmer, comb. nov.
Bolus, 6569! *Schlechter*, 11185! Very similar to *C. lenticula*, E. Mey., but inflorescences subumbellately 3-12-flowered.
11. *L. OXYPTERA*, Bentham = *CROTALARIA OXYPTERA*, E. Mey.
Bolus, 5473! 12650! *Wolley Dod*, 1594!
12. *L. PERPLEXA*, Eckl. and Zeyh. = *CROTALARIA PERPLEXA*, E. Meyer.
Schlechter, 9195! 11046!
13. *L. ROGERSII*, Kensit = *PEARSONIA ROGERSII*, Dümmer.
14. *L. SESSILIFOLIA*, Harv. = *PEARSONIA SESSILIFOLIA*, Dümmer.
15. *L. SWAZIENSIS*, Bolus = *PEARSONIA SWAZIENSIS*, Dümmer.

Excluded Species.

- LOTONONIS Densa*, Harvey = *LEBECKIA Densa*, Thunb.
L. WRIGHTII, Harvey = *HALLIA ASARINA*, Thunb.

PLEIOSPORA, Harvey, Thes. Cap. 51, t. 81 (1859).

A group of nine species, wholly South African, confined to the Transvaal and Natal Regions. With the exception of three species, they

* Cf. *Journal of Botany* (1912), pp. 353-358.

develop straight robust annual flowering shoots from a perennial woody rhizome, the flowers, which are invariably yellow, being variously disposed.

I. Annual flowering shoots rigid, straight, and erect.

i Flowers congested in hemispheric or oblong heads.

*Leaflets thickly and densely ferruginously hirsute-sericeous.

Leaflets elliptic, subacute; lateral nerves prominent but the intervening veinlets inconspicuous. Vexillum slightly sericeous posticously. (4) *holosericea*.

Leaflets narrowly obovate, rounded at the apex, prominently netted beneath. Vexillum glabrous. (5) *Bolusii*.

**Leaflets sparingly sericeous or pubescent.

Leaves densely imbricate. Heads many, densely-flowered. Habit robust. (1) *cajanifolia*.

Leaves scarcely imbricate. Heads few, 2-3-flowered.

Habit slender. (3) *gracilior*.

ii Flowers disposed in paniculately branched spiciform racemes.

Leaflets thickly hirsute-sericeous, elliptic-acuminate. . . (2) *paniculata*.

II. Annual flowering shoots decumbent, sinuate.

a. Stipules filiform or subulate. Spiciform racemes compactly flowered.

†Leaflets elliptic, 7 cm. long, thickly coriaceous, and densely ferruginously sericeous. (7) *macrophylla*.

††Leaflets obovate, 3 cm. long, thinly coriaceous, with scattered hairs, prominently veined and bullatulate. . . (6) *obovata*.

b. Stipules obliquely ovate, cuspidate. Racemes elongate, often secund, more or less laxly flowered.

*Pedicels 1-1½ mm. long. Bracteoles subulate, inconspicuous. (8) *grandifolia*.

**Pedicels 3-4 mm. long. Bracteoles broadly ovate or reniform, cuspidate, enveloping the lower portion of the calyx. (9) *latebracteolata*.

1. *PLEIOSPORA CAJANIFOLIA*, Harvey, Thes. Cap. I. 51, t. 81; l.c. 47. *Psoralea cajanifolia*, Benth. ex Harvey, l.c.

Kalahari Region. Transvaal: Magaliesberg, *Burke*, 58! *Zeyher*, 448! Near Lydenburg, *Atherstone*! Hillsides near Barberton, 900 m., *Thornicroft* 36, ex *Herb. Wood*, 4158! Wonderfontein, *Nelson*, 528! Modderfontein, *Conrath*, 120! Heidelberg, *Miss R. Leendertz*, 1074! Pretoria, *Fehr, Herb. Schinz*! Eastern Region. Natal: Natal, *Wood*, 4158! *Gerrard*, 116!

2. *P. PANICULATA*, Bolus, MSS. ab affini *P. cajanifolia*, foliolis longe acuminatis, stipulis brevioribus, floribus paullulo minoribus racemoso-paniculatum (haud in capitula) dispositis, distinguitur.

Frutex, altus? partibus junioribus ubique corollis exceptis hirsutulis, ramulis florentibus erectiusculis subangulatis aut teretibus foliatis. *Folia*

trifoliolata; petioli ad 12 mm. longi, fere cylindrici; foliola lanceolata, utrinque angustata aut apicem versus longe acuminata, apiculata; terminalia ad 5.5 cm. longa, 1.5 cm. lata, lateralibus longiora aut duplo longiora, subtus costa nervisque lateralibus prominentibus intra marginem anastomosantibus, supra fusciora, haud reticulata, subcoriacea; stipulae binae, arrectae, lineari-subulatae, 3 mm. longae. *Paniculae* ad 8 cm. altae, parce ramosae, ramulis lateralibus patente-ascendentibus ad 4 cm. longis paucifloris; flores perbreviter pedicellati, vix congesti, pallide lutei (fide *Bolus*); bractea subulata, 4 mm. longa; bracteolae binae, oppositae, filiformes, 2-2.5 mm. longae. *Calyx* inflatus, 7 mm. longus, extra stramineo-hirsutulus, ad medium fissus, lobis anguste triangularibus. *Vexillum* 10 mm. altum, limbo oblongo fere truncato basi in unguem abrupte angustato, postice ubique parcissime sericulo intra inferne sericulo; alae vexillo aequilongae, rotundatae, basin versus in unguem longiusculum angustatae, glabrae; carina 7 mm. longa, alis similis, sed angustior, acutata, glabra. *Ovarium* oblique ovatum, pubescens, pluriovulatum, frontem versus in stylum rectum glabrum attenuatum.

Kalahari Region. Transvaal: On mountain-slopes, Houtbosch 1470 m., *Bolus*, 11034!

3. *P. GRACILIOR*, Dümmer, sp. nov. a *P. cajanifolia*, Harvey, habitu graciliore, foliolis brevioribus glabrioribus vix prominente reticulatis, capitulis paucioribus 2-3-floris distincta.

Rami graciles, ad 30 cm. alti, erectiusculi, fere simplices, compressiusculi, laxe foliati, internodiis ad 30 mm. longis, parce adpresse strigillosi. *Folia* ascendentia, trifoliolata; petioli ad 20 mm. longi, teretiusculi; foliola perbreviter petiolulata, elliptica aut oblanceolata, rotundato-acutata, perbreviter cuspidata, a medio basin versus sensim angustata, terminalia 4 cm. longa, 1.5 cm. lata, lateralialia aequilonga aut paulo breviora, subtus costa prominente, nervis lateralibus prominulis, utrinque parce pilosula, tenuiter coriacea; stipulae binae, filiforme-subulatae, erectae, 4 mm. longae. *Inflorescentia* axillaris aut terminalis, 2-4-flora, pedunculo ad 15 mm. alto; flores perbreviter pedicellati, flavi? bracteolae binae, subulatae, ad 4 mm. longae. *Calyx* inflatus, 6-7 mm. longus, extra fulvido-sericeus, dentibus superioribus oblique detoideis 2-2.5 mm. longis, dente inferiore deltoideo-acuminato. *Vexillum* breviter unguiculatum, toto 8-9 mm. altum, limbo late oblongo utrinque fere truncato, postice medio parce sericulo; alae 8 mm. longae, glabrae, limbis conduplicatis fere ellipticis rotundatis unquibus aequilongis; carina alis similis sed angustior, acutata, glabra. *Ovarium* valde hirsutulum, stylo glabro duplo brevius.

Kalahari Region. Transvaal: Without precise locality. *McLea* ex *Herb. Bolus*, 5621! (*Herb. Kew*!).

4. *P. HOLOSERICEA*, Schinz, in Bull. Herb. Boiss. VII. 29.

Kalahari Region. Transvaal: Lydenburg, *Wilms*, 264! 264a! Houtbosch, *Rehmann*, 6270! Makapansberge, Streydpoort, *Rehmann*, 5552!

Allied to *P. cajanifolia*, Harv., but distinguished by the denser foxy indumentum, and more compact inflorescences. The numbers quoted are both at Kew and Zürich.

5. *P. BOLUSII*, Dümmer, sp. nov. *P. holosericea*, Schinz affinis nisi foliolis oblanceolato-ovatis subtus prominente retibus, floribus paullulo majoribus, vexillo superne glabro differt.

Frutex unimetricis altus? ubique corollis exceptis fulvido crasse hirsuto-sericeus, ramis angulatis superne dense foliatis. *Folia* trifoliolata; petioli ad 20 mm. longi, fere 2 mm. crassi; foliola oblanceolato-ovata, rotundata, saepissime mucronata, terminalia perbreviter petiolulata, 6 cm. longa, 2 cm. lata, lateralia sessilia, paullulo breviora, subtus valde prominente reticulata, supra laevia, fusciora, valde coriacea; stipulae binae, erectiusculae, filiformi-subulatae, 6 mm. longae. *Flores* perbreviter pedicellati, umbellatim congesti, ramulos terminales vel laterales terminantes; bractea filiformi-subulata, 4 mm. longa; bracteolae gemmatae, similes nisi breviores. *Calyx* 8 mm. longus, extra stramineo-hirsutus, ultra medium fissus, lobis superioribus deltoideo-acuminatis, lobo inferiore paullulo longiore. *Vexillum* in toto 12 mm. altum, lamina late oblonga, rotundata aut truncata, postice medio ut ungui cuneato sericula; alae unguiculatae, glaberrimae, limbis conduplicatis oblique oblongis rotundatis 7-8 mm. longis; carina fere recta, toto 10 mm. longa, glabra, limbo anguste oblongo unguibus gracilibus aequilongo. *Ovarium* valde hirsutum, apicem versus in stylum perbreve angustatum, toto 8 mm. altum, stigmatibus horizontaliter subcapitato.

Kalahari Region. Transvaal: Rocky mountains, Houtbosch, Pietersburg District, 1740 m., *Bolus*, 10995!

6. *P. OBOVATA*, Schinz, l.c. 29.

Kalahari Region. Transvaal: Houtbosch, *Rehmann*, *Herb. Zürich* and *Kew*, 6249!

Var. *BREVEPEDUNCULATA*, Dümmer, nov. var. a typo foliolis crassioribus, petiolis et pedunculis brevioribus, spicis hemisphericis aut late cylindricis distinguenda.

Kalahari Region. Transvaal: *Roe* ex *Herb. Bolus* and *Kew*, 2639! MacMac, *Atherstone*!

Petioles 1-3 mm. long. Peduncles 0.5-3 cm. long. Spikes hemispheric or broadly cylindric, 2-2.5 cm. in diameter.

7. *P. MACROPHYLLA*, Dümmer, sp. nov. *P. obovata*, Schinz, similis sed foliolis majoribus ellipticis, stipulis filiformi-subulatis recedit.

Herba perennis, scandens? ferrugineo-sericeo-hirsuta, caulibus angulatis sulcatis, internodiis ad 4 cm. longis. *Folia* subsessilia aut petiolata, trifoliolata; petioli usque ad 10 mm. longi, crassi; foliola late elliptica, utrinque sensim angustata, perbreviser cuspidata aut mucronata, terminalia ad 7 cm. longa, 2·2 cm. lata, lateralalia fere duplo minora, subtus valde reticulata, supra leviora et fusciora, coriacea; stipulae binae, filiformi-subulatae, 8 mm. longae. *Racemi* axillares aut terminales, longe pedunculatis, floribus in capitulis oblongis valde aggregatis; pedunculus subnudus, ad 45 mm. longus; capitula ad 35 mm. longa, 15 mm. lata; flores perbreviser pedicellati; bracteolae binae, oppositae, 2 mm. vix excedentes. *Calyx* ad 6 mm. longus, ad medium fissus, segmentis superioribus subulatis, segmento inferiore paulo breviora, extra fulvo-hirsutus, coriaceus. *Vexillum* toto 9 mm. altum, limbo oblongo utrinque rotundato in unguem brevem attenuata, extra inferne et medio adpresso fulvo-hirsuto; alae ad 10 mm. longae, anguste oblongae, rotundatae, in unguibus brevioribus angustatae; carina alis similis sed unguibus limbo aequilongis, fere glabra. *Ovarium* valde hirsutum, stylo recto glabro aequilongum.

Kalahari Region. Transvaal: MacMac, Lydenburg, *Atherstone*!

The coriaceous, thickly felted ferruginous large elliptic leaves characterise this species and distinguish it from its immediate ally, *P. obovata*, Schinz.

8. *P. GRANDIFOLIA*, Dümmer, comb. nov. *Lotononis grandifolia*, Bolus, in Jour. Bot. (1896), 19; Wood, Natal Plants, I. t. 9.

Eastern Region. Natal: On grassy slopes, Van Reenen's Pass, 1750m., Wood, 4516! Rocky hills, York, *McKen*, 8! *Gerrard*, 1103! Kalahari Region. Orange River Colony: *Cooper*, 866!

A remarkably distinct plant, which by its large leaflets, paired stipules, horizontal concave standard, straight keel and style, exhibit a greater affinity to this genus than to that accorded it by Bolus. The large flowers, which are invariably disposed in secund racemes, are, according to Mr. Medley Wood, a dull purple, the upper margin of the standard being prettily fimbriated. In its general habit it is very similar to the preceding species, but the relatively larger, fewer flowers, and the three distinct bracteoles investing the bases of the calyces, render it easy of identification.

9. *P. LATEBRACTEOLATA*, Dümmer, sp. nov. facie *P. grandifoliae*, Dümmer, similis sed omnino hirsutior, floribus longius pedicellatis, paulo majoribus, bracteolis magnis distinctis differt.

Planta ut videtur scandens (perennis) undique corollis exceptis adpresse hirsuta. *Caules* compressiusculi, internodiis circiter 2·5 cm. longis. *Folia* magna, trifoliolata; petioli 5–20 mm. longi; foliola late elliptica aut obovata, apice rotundata, breviter cuspidata vel mucronata, inferne a medio sensim angustata, 20–55 mm. longa, 20–30 mm. lata, coriacea, subtus costa nervisque lateralibus prominulis, supra costato-impressa; stipulae binae, fere persistentes, ascendentes vel demum deflexae, oblique lanceolatae aut late obovatae, longe vel breviter cuspidatae, basi rotundatae vel subcordatae, 4–7 mm. longae. *Racemi* terminales, secundi, 6–9-flori; flores patentes, laxè dispositi vel congesti, pedicellis 3–4 mm. longis suffulti; bracteolae 3, calycis basin fere amplectrantiae, late ovatae, fere orbiculares aut transverse ellipticae, oblique abrupte cuspidatae, basi rotundatae, 6–10 mm. longae, extra hirsutae, intra mox glabrescentes. *Calyx* 15 mm. longus, segmentis superioribus 4, in unum bilobum marginibus irregulariter dentatis connatis, segmento inferiore anguste deltoideo circ. 6 mm. longo, extra valde fulvido pubescens, intra inferne glabrescens sed superne parce pubescens, coriaceus. *Vexillum* perbreviter unguiculatum, lamina late oblonga, utrinque rotundata, apice fimbriata, 20 mm. alta, fere 10 mm. lata, postice superne parce adpresse fulvo sericea sed basin versus glaberrima; alae 14 mm. longae apicem versus valde curvatae ampliataeque, basin versus in unques brevos sensim angustatae, extra ad marginum infernem fulvido sericeae; carina longe unguiculata, recta, lamina 7 mm. longa, 2·5 mm. lata, glaberrima. *Pistillum* stylo recto excepto fulvo-hirsutum.

Kalahari Region. Transvaal: Spitzkop, Gold-mine near Lydenburg, *Wilms*, 392! Near Lydenberg, *Atherstone*! Elandspruit Berg, 2250 m., *Schlechter*, *Herb. Zürich*, 3838!